

JUL 12 1944

AMERICAN ECONOMIC REVIEW

VOL. XXXIV • No. 2 • PART 2 • SUPPLEMENT • JUNE 1944



IMPLEMENTAL ASPECTS OF PUBLIC FINANCE

Special Symposium of Papers

PRESENTED AT THE

Fifty-sixth Annual Meeting

OF THE

AMERICAN ECONOMIC ASSOCIATION

Washington, D.C., January, 1944

Edited by the Secretary of the Association

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(Temporary address: c/o Brookings Institution, 722 Jackson Pl., N.W., Washington, D.C.)

THE AMERICAN ECONOMIC REVIEW

Vol. XXXIV, Number 2 SUPPLEMENT Part 2, June 1944

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AMERICAN ECONOMIC ASSOCIATION

PRINTED BY GEORGE BANTA PUBLISHING COMPANY

Publication Office: 450 Ahnaip Street, Menasha, Wisconsin

Executive Office: American Economic Association, Northwestern
University, Evanston, Illinois

Inquiries and other communications regarding membership, meetings, and the general affairs of the Association, as well as orders for publications, should be addressed to Dr. James Washington Bell, Secretary of the American Economic Association, Northwestern University, Evanston, Illinois.

Entered at the post office at Menasha, Wisconsin, as second class matter. Acceptance for mailing at special rate of postage provided for in the Act of February 28, 1925, embodied in paragraph 4, section 412, P. L. and R., authorized September 13, 1928.

The *American Economic Review* is sent to all members of the American Economic Association as one of the privileges of membership, \$4.00 of the annual membership dues being in payment of a year's subscription to the publication.

Price, in paper, \$1.00

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[EDITORIAL NOTE: The Executive Committee of the Association has authorized separate publication of the papers and discussion of the two sessions of our annual program devoted to the subject: The Implemental Aspects of Public Finance. Since this supplement was not planned as a separate volume in advance, it does not bear all of the qualities which might be expected of a specially prepared monograph. However, two of the main papers presented proved to be minor monographs, and the impracticability and undesirability of changing their character prompted the idea of the special supplement to the *Proceedings*. The other two papers are of more general character. They, together with the discussions, serve, on the whole, to give a fairly rounded treatment of the subject. The papers appear very much as presented at the annual meeting. In no case has a thorough overhauling been attempted. Statistical data have in some instances been brought down to date.]

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THE purpose of the American Economic Association, according to its charter, is the encouragement of economic research, the issue of publications on economic subjects, and the encouragement of perfect freedom of economic discussion. The Association as such takes no partisan attitude, nor does it commit its members to any position on practical economic questions. It is the organ of no party, sect, or institution. Persons of all shades of economic opinion are found among its members, and widely different issues are given a hearing in its annual meetings and through its publications. The Association, therefore, assumes no responsibility for the opinions expressed by those who participate in its meetings.

JAMES WASHINGTON BELL
Secretary

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ECONOMIC RESEARCH AND TAX POLICY

By ROY BLOUGH
Treasury Department

I. Introduction

Over the past few years a great change has taken place in the attitude of economists toward taxation. In texts and general treatises, taxation almost traditionally has been treated as a stepchild of economics and placed in a separate section at the end of the book. This separation was often not only physical but intellectual as well, as the theories of taxation were often not integrated with the theoretical system of the treatise as a whole. The policy attitudes toward taxation were usually based on Adam Smith's deservedly famous canons with the emphasis placed on theories of tax justice. Unlike the early treatises of Smith and Ricardo, the later writings seldom gave any substantial attention to the economic effects of taxation. It became the custom to insert or append a (frequently) stale and uninspiring discussion of shifting and incidence which often served to test the intellectual fortitude of many generations of students, and which were without implications for planned fiscal policy. The possibilities of using taxation deliberately in stimulating or guiding the economy were seldom considered. Commonly the traditional dictum was passed on that taxation should be used only for purposes of raising revenue.

Taxation, of course, has always influenced the economy. It is natural that open recognition of this fact was delayed until taxes became very large in absolute amounts and in relation to the national product. Whether we wish it or not, the plain fact is that modern societies have tended toward the ever increasing importance of taxation. Moreover, economists have in recent years become more concerned than formerly with the possibility and desirability of directing and controlling the economic system through changes in economic and legal institutions, primarily through governmental action. In recent years, accordingly, the importance of taxation as an influence on the economy has received increasing recognition among economists. They have become concerned both with the amounts of taxes imposed in relation to expenditures and with the kinds and the timing of taxes. Fiscal policy, of which tax policy is a major element, has been seized upon as a promising instrument for preventing or ameliorating depressions and inflationary booms. In some quarters taxation is viewed as a positive influence in the expansion of production in general or along certain desired lines, and

for the reduction or elimination of unemployment. Far from being a stepchild, taxation suddenly finds itself the favored child of many economists.

There is, of course, resistance to the idea of using taxation for social or economic purposes. The case need not be argued here. The fact that taxation has been used throughout the life of the American nation for purposes of economic promotion and control is an indication that there will be no turning back now. Moreover, since it is impossible to avoid or neutralize the economic effects of the tax system, there would seem to be no valid argument against adjusting taxes so that those effects may be more rather than less desirable.

However, a distinction should be made between recognition of the inevitable importance of the economic effects of taxes and the possibility of making them beneficial rather than harmful, and the policy of using taxation as an instrument for deliberate economic control. The problems are of much the same character in the two cases but not of the same degree of importance. In the former case the role of taxes is much humbler than in the latter case. In either case taxation is an element in governmental economic policy, but in the one case it is an incidental element, while in the other case it is relied on as a positive instrument.

The use of taxation as an element, either passive or active, in economic policy must begin with economic research to determine the ways in which taxes affect economic activity. Without that knowledge the blind will lead the blind, and if they do not fall in the ditch, it will be good luck, not good sense. The point cannot be overstressed. There are great areas in the field of tax effects that have been only roughly surveyed and that require major research before intelligent tax policies with respect to them can be developed.

Economic research, however, is not all there is to the determination of tax policy. It is one thing to analyze the effects of certain tax pressures as they impinge on economic activity and to conclude that the manipulation of these pressures might have foreseeable effects; it is quite another problem to develop a tax program which will produce the most desirable effects, all things considered; and it is still another problem to have that program adopted and put into operation. From economic analysis to an adopted tax program in full administrative operation may be a very long distance indeed.

It is the purpose of this paper to examine some aspects of the process which must go on between economic research and the finally adopted tax program. The discussion will involve: first, some aspects of the process of translating results of economic research into a tax program, and, second, some aspects of the process of securing adoption of a tax

program, followed by some remarks on the implications of the process of policy formulation and adoption.

II. *Some Aspects of Formulating a Tax Program*

An early step in moving from basic research in the economic effects of taxation toward the formulation of a tax program is a study of the way in which tax measures would need to be designed to produce the desired effects and not to produce other undesirable effects. The tax system is a very complex mechanism with numerous parts and interrelations that are not apparent on casual examination. Unless the tax system and its interrelated parts are thoroughly understood, proposals for accomplishing desired economic effects may very well be abortive or may have quite unexpected results. Moreover, taxation effects operate to a considerable extent by taxing one course of action more heavily than another course of action. The desired result in such cases is achieved when the taxpayer avoids taxes in the manner intended. The translation of economic research into a tax program must be done with an informed and imaginative eye turned in the direction of possible alternative methods of tax avoidance.

The translation of economic research into a tax program also requires a careful examination of competing considerations. The desired economic effect, which the research indicates can be achieved through taxation, may be inconsistent with the achievement of other desired objectives in taxation. On the other hand, it is probable that achieving a certain economic effect will interfere with the achievement of other desirable objectives, perhaps other desirable economic effects. In the case of such competition of objectives, it is necessary to choose among them or to compromise them in order to achieve the most desirable total result. When this choosing and compromising process has been completed, it may well be that the economic effect which was the starting point for the procedure will have been deemed less desirable than other competing considerations and may accordingly have been discarded. Even if it has been accepted, it may have been modified in important respects in order that the tax program as a whole may do the most good and the least harm.

Competing considerations grow out of the basic fact of economics; namely, that desires exceed resources. The satisfaction of some desires usually means the partial or total denial of some other desires. It is not possible to have all of the good and none of the bad in taxation. It is always a question of having more of some desirable results and less of others. In designing a tax program the designer will presumably choose the combination which he believes will give the optimum result.

One classification of tax considerations is into two groups: (1) con-

siderations which present a positive reason or purpose for imposing taxes, and (2) those considerations which would not in themselves lead to the imposition of taxes, but are deemed important in determining the kinds of tax measures. Whether a consideration will fall in the first group or the second group is a subjective matter depending on how intensely a person feels about the accomplishment of a certain objective, although there are some considerations such as ease of administration which can scarcely be thought of as positive purposes for imposing taxes. The chief positive purpose for imposing taxes is of course the raising of revenue. Many persons recognize no other legitimate positive purpose for taxation. However, the history of our country presents many examples of two other purposes. One of these is the protection of industry from competition or, perhaps more accurately, the protection of particular industries. It is this purpose rather than revenue which has dominated international tax policy in the form of protective tariffs. It has also had important examples in interstate tax policy and in internal revenue taxes.

Another nonrevenue purpose for which taxation has been frequently employed is as a supplement and substitute for the police power; thus, taxation is sometimes used for sumptuary purposes, as in the case of certain kinds of narcotics, and for implementing direct controls, as in the case of firearms. The famous attempt to use taxation in the regulation of child labor will be recalled.

From the economic point of view all tax considerations resolve themselves finally into considerations regarding production, distribution, or, less importantly, consumption. There is no opportunity here for a detailed discussion of the various considerations, but a brief review of them may be of value in indicating the problem of designing a tax program.

1. *Constitutionality.* The constitutionality of the measures contained in a tax program is not so much a tax consideration as it is an obstacle which must be surmounted before there is a legal tax. Taxing powers are in general broad, but constitutional restrictions have some bearing on the possibility of using taxes to achieve desired economic effects. Taxation must not be arbitrary; this means, of course, arbitrary in the judgment of courts. The rule against arbitrariness prevents taxes from being used as a precise instrument for effectuating various economic and political purposes since often only through arbitrariness is it possible to seek out specific industries or concerns or specific practices within those industries or concerns for special encouragement or discouragement. The rules against arbitrariness prevent taxes from being an unbearable exaction imposed on political and economic enemies by those in power. The protection of individuals and businesses

against arbitrary government action in the tax field has been a process of long and slow development towards democracy and a reversion would not be tolerable even for laudable ends. The courts generally do not object to the use of a tax for nonrevenue purposes, if the tax does not show such a purpose on its face, and not then if there is power other than the taxing power to impose the regulation.

One of the effects of constitutional limits is to prevent the imposition of taxes on wealth by the federal government. This is of significance since it effectively prevents the federal government from imposing taxes according to one important measure of personal ability. Thus in time of war income can be and often is taken almost completely by taxes, while accumulated wealth, which stands to benefit heavily from victory in the war, is free from direct federal wartime taxation.

Another effect of the constitutional limitation is to prevent geographical differentiation within the country. This largely prevents the application of internal taxes in such a way as to act as protective tariffs for one part of the country against another part of the country. It does not, however, eliminate all geographical differences in tax effects. For example, if in one region the income has its source largely in one industry while in another area income is derived from other sources, the imposition of a tax on the industry or the granting of an exemption to the industry may be uniform throughout the country, but may nevertheless result in the subsidization and promotion of one region at the expense of other regions.

Constitutional restrictions are important, not only where the courts actually strike down a tax, but where Congress does not impose a tax because it is anticipated that the courts may possibly strike down the tax if it is imposed. This possibility of unfavorable judicial action may serve as an excuse not to take undesired action.

2. *Revenue.* There was a time when the accepted test for the proper volume of revenue was very simple: the amount necessary to cover the expenditures for the year. Newer theories regarding the relationship between revenues and expenditures indicate the desirability of adjusting the volume of revenue as an instrument of controlling inflation, of offsetting cyclical movements of business, and of stimulating a stagnated economy. These theories are more sophisticated than the idea of annual budget balancing, but they rest on the same basic belief that the purpose of raising revenue is an economic purpose. If there were no danger of unfavorable economic results, there would be little or no reason for ever raising any revenue at all. Accordingly, the maintenance of a sound economy has always been the purpose of raising revenue. However, in some cases this purpose may have been indistinct, since much of the emphasis on revenue raising seems to be based on a tradi-

tional point of view which has become intellectually disassociated from the economic basis of taxation.

3. *Tax Justice.* Tax measures are tested also by the consideration of tax justice. Everyone agrees that taxes should be just, but there is wide disagreement as to what tax justice is in specific situations.

It should be observed that tax justice is not a uniformly understood concept. There is first of all the tax justice which is achieved by the like treatment of likes. This is essentially the avoidance of arbitrariness which was previously mentioned. If John Brown and John Smith both are in the same economic situation, tax justice requires that they be treated alike. If they are in exactly the same economic situation, their failure to be treated alike will be due to lack of uniformity in tax administration. The inequities of assessment of real estate are well known. But some of the worst inequities occur where the economic situation is in general alike for different people, but where some one factor is different. This factor may not be important in determining the amount of taxes which people ought to pay, but it may in fact be important in determining the amount of taxes they actually do pay. The equitable treatment of persons who are substantially alike in their economic situations is often referred to as tax equity as distinguished from the larger concept of tax justice. Tax equity consists in recognizing these inconsequential differences for what they really are and adjusting taxes so that they fall with equal weight on people with equal ability to pay taxes. It may well be that in the minds of taxpayers this equity between people who are nearly alike and find themselves in the same social stratum is more important than broader tax justice between social groups in widely different economic situations.

Tax justice has received the bulk of attention from tax writers, chiefly in connection with the "principle of ability-to-pay." This principle is, of course, in no sense a scientific principle but is rather a normative principle; it is concerned not with explaining what is but with indicating what ought to be. It has been the tax manifestation of the democratic principle in government. It is not to be lightly regarded when it comes in conflict with other considerations.

This does not mean that some of the ingenious theories for measuring ability-to-pay are of great value in deciding on a specific rate structure. The ability-to-pay theories certainly lead from regressive taxation toward progressive taxation but give little guidance as to how progressive the rate structure should be.

The long and influential history of ability-to-pay has resulted in its being used as a slogan for selling to the public or to legislative bodies private privileges which have no proper relation to ability-to-pay. This is not surprising since a phrase which has received popular acceptance

will be used to cover everything that can be dragged in under the label without being so patently absurd as to defeat the purpose. In such selling campaigns "taxation according to ability-to-pay" has no more actual meaning than "taxation according to diddle-day" might have. Fortunately, these abuses of ability-to-pay have not destroyed its meaning. As generally used in the formulation of tax policy, the term appears to be synonymous with progressive taxation; that is, if taxes are not progressive they are not in accordance with ability-to-pay.

A third and possibly different concept of tax justice may be expressed in broader terms. Under this concept taxation is just when it results in a socially just distribution of wealth and income. The idea may be somewhat less broadly expressed in the following way: if a tax contributes to bring a distribution of income and wealth more nearly in harmony with the principles of social justice, it is a just tax; while if it operates to remove the distribution of wealth and income further from what may be conceived as social justice, it is an unjust tax. Social justice is used here to mean any given person's idea of that term. Social justice is a highly subjective concept. The removal of social injustices and the achievement of social justice are a very heavy load to place on the tax system.

4. "*Economic Effects.*" As previously indicated, all tax considerations have their economic aspects. Thus tax justice relates to the economic effects of taxation on the distribution of wealth and income. However, the phrase economic effects of taxation is commonly used in connection with effects other than direct distributional effects, although it would be hard to think of any economic effect which would not affect distribution directly or indirectly.

The economic effects of tax measures may relate broadly to practically all taxpayers or may affect narrow groups of taxpayers. There are always taxpayer reactions to the end product of the taxing process, which is to take money out of taxpayers' pockets and put it into the government's pocket. Some of these reactions are the necessary ones which result from reducing the amount of money which an individual or business has to spend. Other reactions may result from a shift in the points of equilibrium which exist between effort and risk-taking on one side and compensation on the other. Still other reactions may be in the direction of seeking to reduce taxes by directing activities along lines which will produce a lower tax rather than along lines which will produce a higher tax. An observation, to be elaborated later, is that economic reactions are accompanied by a political reaction in the form of an attempt to secure tax reduction for the taxpayer in question, either at the expense of total revenue or at the expense of other taxpayers.

There are all sorts of tax incentives of an economic character, some

relating to basic activities, others to less important details. There are incentives to save, incentives to spend; incentives to invest, incentives to hold idle cash; incentives to work, incentives not to work; incentives to undertake risks, incentives to avoid risks. At various times different ones of these incentives may be considered desirable. Just what economic effect is considered desirable depends on both the situation and the person doing the considering.

Desirable economic effects sometimes supplement one another, but often conflict. A most desirable pattern of these effects may be very complex. With an omniscient understanding of the various economic effects of taxes any one person may arrive at a pattern of effects which he considers the most desirable to achieve. The patterns of different people, however, will differ and often conflict. In general the effects which promote greater production have a more widespread interest than the effects which simply affect distribution, but it is rare that any tax effect will be solely on the production side. Moreover, the promotion of production in one area may be desired by persons who are interested in that particular field, while the promotion of production in other areas will be favored by other groups. The point here is that economic effects are complex at best and that they are often complicated by conflicting interests.

5. *Administration and Compliance.* Another consideration which has an important bearing on tax policy concerns administration and compliance. Administration and compliance in general relate to the cost of collecting and paying taxes as distinguished from the amount of the taxes themselves. This cost may be in the form of financial cost, or it may be in the form of annoyance and trouble. Administrative costs are those costs which the government pays directly, while compliance costs are the costs which taxpayers pay directly. Other things being equal—and of course they rarely are equal—the lower the administration and the compliance costs the better.

Even in these days it is occasionally implied that the administrative costs of a certain tax may be acceptable as long as they do not equal 100 per cent of the tax collected. There are some marginal dollars which may probably be collected only by incurring administrative costs approaching or even exceeding 100 per cent. This may be justified because the act of collecting these marginal dollars on the one hand increases tax fairness, and on the other hand brings forth many other dollars in future collections which would not be forthcoming if the administrative costs of collecting the marginal dollar had not been expended. Aside from this special case, administrative costs cannot be balanced against tax dollars because tax dollars are merely transfers of sums while administrative costs are actual social losses. Where the purpose of the tax

is not revenue, the comparison of cost to revenue is of course not significant.

The cost of administering most taxes is not ordinarily a serious social cost. It is perhaps rare that a tax is abandoned because of its administrative costs, especially if it is a high revenue producer. On the other hand, a tax may very well be abandoned or not levied because of high compliance costs. This is especially true where these costs take the form of widespread trouble and nuisance. It should be observed that in considering tax compliance it makes a great deal of difference whether the tax system is imposed on relatively few people or is imposed on the great bulk of the population. If it is imposed on relatively few people the cost in labor and time, while important, has much the same significance as the cost of administration. Compliance costs are in effect additional tax administration costs which should be considered in determining the desirability of the tax, but even when high do not necessarily indicate that the tax should be abandoned. Where the taxes are imposed on the masses of the population, however, and the compliance costs are largely in the form of personal inconvenience to millions of taxpayers, the public reaction may be so significant as to make not feasible an otherwise very desirable tax.

The importance of administration and compliance considerations in the designing of a tax program can scarcely be overemphasized. It is of course true that the natural reluctance of taxpayers and administrators to change their methods of operation can and should be overcome where this is feasible and where the other considerations to be achieved thereby warrant the shift. However, there are many significant and otherwise desirable tax ideas which must simply be abandoned because they cannot be administered or because taxpayers will not take the trouble to comply with them. Administrative difficulties are not as well-defined an obstacle as are constitutional restrictions, but it is probable that they are practically of far greater importance.

6. "*Political Considerations.*" The list of considerations thus far considered does not include what are commonly referred to as political considerations. Political considerations are always present. They consist primarily in their effects on the relative emphasis given to the various considerations already discussed, based on the probable attitude of people and policy makers toward such considerations.

The task of translating the results of economic research into a tax program is not one to be undertaken lightly. It goes outside the field of economic science because it requires the forming of value judgments of the relative importance of many complex considerations. No two persons are likely to arrive at the same program. The merits of different programs will rest not only on the knowledge which the program maker

has of economic effects and of the intricacies of the tax laws but also on the quality of his judgment.

III. *Political Institutions and Forces in Tax Policy*

Having formulated a tax program, there remains the problem of securing the approval of the program by the makers of tax policy with the result that it is passed and placed in operation.

The Machinery for Determining Tax Policy. The legislative, executive, and judicial branches of government all play a role in tax policy. The role of the judiciary is largely a passive and negative one. It is the function of the judiciary to block legislation which appears too much in conflict with that long-run point of view which through the original document, amendments, and interpretation is embodied in the Constitution. The judiciary, moreover, is often called upon to determine what the legislative branch of government meant by what it said.

The function of the executive branch in tax policy is to recommend and to approve. Its only real power is the power of the veto. This power has been used rarely in tax legislation. Tax bills ordinarily have many parts—some good, some bad—and provisions often become law as part of such bills when they would be vetoed if they reached the executive in separate bills.

Even the veto, of course, is not a final legislative instrument, since the legislative branch has the power to pass legislation over an executive veto. Generally speaking, the power of the executive in legislation is a reflection of the ability of the executive to influence the legislative branch. In taxation, this influence is chiefly apparent in the form of recommendations by the President, the Treasury, and other agencies of the executive branch, and by the veto. Less apparent and more intangible are the relations between members of the executive branch and members of the legislative branch.

The executive branch of government is made up of numerous agencies, often with conflicting points of view. The problem of reaching a policy position on the part of the executive branch is somewhat simplified by concentrating the principal interests in finance in a relatively small number of agencies. With respect to specific points, however, there may be substantially divergent views which must be harmonized, compromised, or chosen between.

The legislative branch in our country operates through a bicameral legislature in which revenue legislation must originate with the House of Representatives. The Senate is helpless until some revenue measure comes along from the House, but from that point on it is under no inhibitions and can amend, add to, and subtract from tax measures with freedom.

The committee system has a notable effect on tax policy. With 25 members on the Ways and Means Committee out of a membership of 435, there can be no uniform representation of all the varied interests of the country. Disproportionate representation on committees is frequent, with some states or some areas or some industrial groups much more highly represented than others. This naturally has its effect on the tax policies adopted.

The public hearings on taxation are open and largely unplanned hearings at which members of the public—for the most part representatives of organized groups—present their points of view, their arguments, and their facts. The testimony is of an *ex parte* character; there is no cross examination by expert counsel, no adequate testing of the validity of the arguments and facts presented. Moreover, there is no assurance that the interests of the more inarticulate members of the community will be represented.

After the public hearings come the executive sessions at which the various problems are thrashed out and committee decisions reached. An important element in executive sessions is the specific case. That is, committee members appear to give careful consideration to the specific situations that are brought to their attention either through public hearings or through private representations of constituents.

After executive sessions the committee reports a bill and accompanies the bill with a report explaining it and often defending the committee's action. The committee reports are given considerable weight in courts of law and elsewhere as evidence of what the committee meant. In some cases this is entirely justified, but in other cases few members of the committee may be aware of the language used in the report.

The floor debate in the House is ordinarily of relatively little significance in determining the complexion of the tax bill. It is very common to have a "closed rule" which permits debate but does not permit amendment, and which requires the acceptance or rejection of the bill in toto. Whether or not the rule will be "closed" depends on various factors, and if there is a strong feeling on some issue the rule may not be closed as to that issue. Floor debate in the Senate is an important element in determining policy and many amendments are made on the floor. Indeed, Senate floor amendments are often added thick and fast and with little consideration. They are "taken to conference" where, presumably, the good will be sorted out from the bad. In conference, however, they then become bargaining points for the bargaining process between the Senate conferees and the House conferees. Many "amendments" taken to conference with little Senate consideration wind up as part of the final law.

The Congress is a deliberative body and the period of deliberating on

a tax bill is often extensive. Some bills are passed quickly. In 1939, when only minor issues were involved, and in the first Revenue Act of 1940 when a simple formula of tax increase was adopted, the bills were passed with a minimum of delay, in approximately one month. Speed was achieved in 1939 in part because of the necessity of extending the life of the excise taxes which were about to expire. Where the issues are important, however, or where many minor issues must be considered, the tax bill may occupy many months. Thus consideration of the Revenue Act of 1938 was begun by a subcommittee of the Ways and Means Committee on November 4, 1937, and was finally passed in May of 1938. Consideration of the bill imposing the excess profits tax was started on August 9, 1940, and the bill was signed on October 8, 1940. The Revenue Act of 1941 started on April 24, 1941, and was signed on September 20, 1941. The Revenue Act of 1942 was started on March 3, 1942, and was signed on October 21, 1942. The Current Tax Payment Act of 1943, which was commonly expected to be a simple little revision of the law, lasted from February 2, 1943, to June 9, 1943. Hearings on the Revenue Act of 1943 started October 4, 1943, and the bill was passed over the President's veto February 25, 1944.

An interesting element of the machinery for tax policy determination is the so-called "tax expert." This term is an offensive one to the persons thus designated. It is not an adequate word since it cannot be used in the first person with due modesty, while the honor which might attach to the designation is depreciated by the fact that it is not infrequently applied to the able and the incompetent alike. The term is applied to technical tax specialists, principally lawyers, administrators, and economists, although it may apply to anyone who is accepted as having technical knowledge in taxation. At the present time the members of the Staff of the Joint Committee on Internal Revenue Taxation and of the Treasury staff, including the Bureau of Internal Revenue, are the principal although by no means the sole groups of governmental experts concerned with tax policy. The function of the experts is to assist the policy makers in both legislative and executive branches with facts, in a broad sense, and upon occasion with recommendations. It is useful, although by no means imperative, in securing policy approval of a tax proposal to have the support of the experts, preferably those of both the Joint Committee Staff and the Treasury. The function of the experts is important, but it must not be overstressed. Policy makers get along without the experts, often very well; and they have a habit, very annoying to the experts, of rejecting their suggestions, or, worst fate of all, forgetting the existence of the experts altogether when an important decision is to be made. There is a curious fallacy that lingers in some quarters—although hardly in Washington—to the effect that through the use of better tax experts the necessity for tax politics could be re-

moved and a fair, model system of taxation be developed and adopted. The analogy is sometimes used of the engineer who designs the best bridge to be built across a river. But the analogy is not complete. Before the engineer was ever called in, a decision had been reached to build the bridge and to build it at a particular point and not twenty miles up or forty miles down the river. Cost had to be weighed against benefits. The engineer's job was a relatively simple one because all of the basic conflicts and competing considerations had been resolved and a decision reached before his work began.

Conflicting Interests. It is the conflicts of interests and the competing considerations that make political bodies necessary and that present to them their vital tasks of weighing, choosing, and compromising. Tax policy is essentially a political problem, in the best and broadest sense, because the dominant note is that of conflicting interests among taxpayers. This is not to say that there is no harmony of interest in tax policy. As in all human relations there are interests in taxation which coincide for substantially the whole population.

The element of conflict in taxation is an expression of the conflict present in any distribution of the product of joint efforts. In whatever field of price one may look, one sees a conflict over that price, whether it be the price of the product, the price of raw materials, or the amounts of wages and other shares in distribution. Conflict is more important, however, in the case of taxation than in the bargains that determine the primary distribution of income. Most of the distributional prices grow out of direct bargaining between the buyer and the seller. The government is always in the background as an influence over the results of the bargain, but the ability of the bargainers to withhold what they have to sell or to withhold their purchases is the dominant element in the determination of the price. Accordingly, the conflict is direct and the limits at any time are ordinarily narrow, since beyond a limited area there will be no purchase or sale and both parties will be injured.

In taxation, however, although bargaining is present it is quite a different kind of bargain; it is a political bargain. The government is the sole agency in determining the original distribution of the tax burden although subsequent shifting takes place through the economic bargaining mechanism. No individual or group is in position to affect directly his original share of the tax burden by withholding goods or purchasing power from the market. If there is any withholding of goods or effort, it is spread over a long period and is general in character and not specifically directed against the tax. It is not of such a character that it can immediately and clearly affect the outcome of the tax bargain. It must operate on tax policy through the political machinery. Moreover, the benefits which the individual receives from government do not depend on the amount he pays. So far as he is concerned the two

are unrelated. If through political action he can pass his share of tax burdens on to someone else, it is, within limits, all to his advantage. Under these circumstances it is not remarkable that tax policy gives rise to intense political strife. This strife might be reduced if people had a clearer understanding of their interests and those of others, but even then much basic conflict would remain.

If people were all in exactly the same economic and geographical situation, the conflicts of taxation would be minor and would concern equality of administration rather than legislative policy. Major conflicts over tax policy arise primarily because persons are in different economic positions or geographical jurisdictions. Among the differences in economic position are differences in the volume of income received, in the source of income, and in the disposition of income. Perhaps the most important difference is that based on the volume of wealth or income. Much of the controversy over the amount and nature of governmental expenditures arises from differences in wealth or income, while in the field of taxation proper the conflict is between regressive taxation and progressive taxation involving both forms of tax and rate structures.

Differences in economic position due to the source of income may concern the ratio of income received to property owned. Thus a person may have income from property alone, from effort alone, or from various proportions of property and effort. Differences are likewise present in the forms of property, especially between tangible and intangible property and also in the occupation and industry from which income is derived. Other differences concern the disposition of income between saving and spending, among various kinds of investments, and among various types of expenditures. All of these and other differences give rise to conflicts over tax policy.

Geographical differences, that is, differences in the political jurisdictions in which people live, also give rise to conflicts of interest in taxation. Responsibility for financing the activities of government is divided among some 175,000 jurisdictions. All persons living within any one political jurisdiction have some interests in common which conflict with the interests of persons in other jurisdictions.

Although no two people are likely to have the same economic and geographical position and interests except by accident, there are degrees of similarity and contrast. Since political power largely determines tax policies, persons with like interests tend to form groups for the more effective expression of their opinions. These groups have varying degrees of effectiveness in dealing with the makers of tax policy but in general have a great advantage over persons not working through groups. Unity and conflict of interests on a geographical basis are

formally recognized in the system of representative government.

The spectacular nature of conflicting interests in taxation tends to obscure the existence of harmony of interests. Some harmonies are direct and obvious. For example, nearly every person prefers certainty in the amount of taxes that he must pay to uncertainty and confusion. Nearly everyone is benefited by low administrative costs of tax collection and low compliance costs. Other harmonies underlie apparent conflicts or at any rate set limits to the conflicts. For example, a high protective tariff on manufactured products might so destroy the foreign markets of domestic farmers and diminish their purchasing power as to affect adversely the markets of manufacturers, with the result that manufacturers would really be better off with lower tariffs. In this case there is an area of conflict between farmers and manufacturers, but beyond a certain point the conflict may be replaced by harmony. The status of one individual or group in the community may be improved as a result of improving the status of others.

Another example of basic harmony is inherent in the concept of tax justice. Justice is a moral end or objective and its violation outrages the moral sense of people. Moreover, good will among various groups in society is necessary to the effective functioning of economic organization. Flagrant injustice in taxation destroys good will and leads to disruptive antagonisms. Taxes imposed through the political power of one group might so destroy the good will of other groups that harm from the resulting non-co-operation would more than wipe out the advantage. In an orderly society some superficial advantages that an individual or a group might obtain by political force always must be sacrificed in order that there may be peaceful and orderly political, social, and economic relations through which greater advantage for all may be secured.

Another kind of harmony is based on the interests which the members of a group seek not each for himself but each for the whole group. Such group loyalties or common interests usually arise when the group is in conflict or in competition with other groups, and they tend to disappear in the absence of such conflict or competition. For a nation as a whole unity in taxation is difficult to achieve even during time of war when national unity in general is much greater than before or after the war.

In treatises on taxation the emphasis has been on harmony, or perhaps it would be more accurate to say that conflict in taxation has been either neglected or hidden from view and has not been given its share of emphasis. The reason for this relative emphasis on harmony may arise from a natural desire to express common interests rather than conflicting private interests, to emphasize those things in which we are united rather than those things in which we are at odds with each other.

Tax conflict does not necessarily take the form of a direct clash be-

tween groups although this sometimes occurs. It is more likely to take the form of one group's demanding that its taxes be lowered or not raised, as the case may be. It is often said by representatives of such a group that they have no desire to increase the tax burdens of anyone else. This is no doubt commonly true, but it is inevitable, nevertheless, that the burdens of others will be raised to the extent that the burdens of the particular group are lowered. This conclusion rests on simple arithmetic, but if it were appreciated fully there would be many less cases of especially favorable treatment in the tax laws.

Frequently, in consideration of tax policy, it is necessary to contrast the "public interest" and some "private interest." What may be called the public interest falls into two categories. There is, of course, the common interest reflecting those interests which all members of the community have in common. The other category is the public interest which emerges from a welter of conflicting private interests; very roughly, we may say it is the private interests of the majority. Unfortunately what the tax laws signify as being the public interest is not always the private interest of the majority, but often the interest of only a small minority who happen to have the political power to force acceptance of their private self-interests as the public interest.

Inertia and Policy "Lag." Another factor which has an important bearing on the making of tax policy is that changes, especially radical changes, from the existing tax system must overcome the strong momentum of existing institutions and the inertia against formally changing those institutions. Ordinarily it is difficult to get a new provision into the law; while a provision tends to stay in the law unless some important group makes a sustained effort to secure its repeal. Likewise it is easier to prevent a provision from being adopted than it is to have it repealed. People's minds are not flexible where taxes are concerned. People like certainty and continuity. They do not want to spend any more of their time thinking about taxation than necessary. There is almost certain to be a considerable lag between the time a tax change is proposed and the time the public is prepared to adopt it. In general, it is probably true that the larger the body of people concerned, the greater this lag is likely to be. The mass movements which sometimes catch hold of public imagination and produce important changes cannot be created at will and are not likely to be repeated frequently.

IV. Significance of the Policy-making Process

It is thus a long route from the original idea arising from or developed by economic research and the final adoption of a tax program. Occasionally, an idea will catch the people's imagination or so appeal to their pocketbooks that the route is quickly traversed. Other ideas take

longer, sometimes many years, to reach the goal of acceptance, and still others never get there at all.

The extent to which the effective use of taxation as an instrument of fiscal policy is affected by the policy-making process should be in some measure predictable. The economist by broadening the scope of his research can largely ascertain what competing considerations are likely to arise and seek to reduce the issues to a minimum. He can at least assure himself that the tax incidence or effects which he desires can be fitted into a program with an over-all effect that is in the public interest. The economist can develop those aspects of his work which point to harmony of interests and to the reduction of the area of conflict. He can quietly discard ideas which in their actual operation could give not the results he desires but rather results that he would be the first to condemn. In other words, he can adapt his proposals for using taxation to support economic policy to the realities of the process of making tax policy.

Two examples may be of interest in this connection. An ingenious and far-reaching proposal is that for a "flexible" system of taxes under which rates would be raised or lowered from time to time as the situation seemed to require. The fiscal advantage of increasing and decreasing tax rates according to economic needs and of relying on one form of tax at one time and on another form at another time would be very great indeed. The problem is to get legislative bodies and the taxpaying public to move with such agility as to keep abreast of the necessary changes. The designation of a small group to make the adjustment would be a very helpful step, although it would not eliminate the inevitable political pressures that are now the chief stumbling block. There is at present little prospect, however, that Congress would grant to any administrative agency, or even to a committee of its own appointment, the power to operate a flexible system of taxes. The determination of tax rates has been perhaps the most universal prerogative of legislative bodies since the early struggles in England between the Parliament and the Crown. It is not likely that an English-speaking legislative body would even temporarily lend to others the exercise of this fundamental power. It certainly would not do so without a profound conviction of the necessity of the step; and that conviction does not now exist. For Congress itself to operate on the flexible basis would involve serious problems of getting Congressional attention and understanding as well as of the time lag during consideration of the proposal. Since there are differences in interest and competing considerations on which members of Congress would have different value judgments, the prospects that flexibility can be made a practical reality are not bright at least for the near future.

It should be observed, moreover, that a substantial lag in the measures taken under a flexible tax program might be more harmful than no effort to use such a program, since the result of delay might be that the intended measure would be put into effect at just the wrong time.

Another example concerns the application of tax measures to accomplish specific incentive results. In addition to difficulties, such measures involve dangers that the tax incentive will become a special privilege yielding results far different from those intended. The self-interest of industry and subindustry groups would lead them to seek any special treatment which was offered to other industries, with the result, if past experience is any criterion, that political pressures might force the extension of the special treatment far beyond its useful bounds. Moreover, a tax incentive purposely creates a field of tax avoidance; this is the essence of the incentive. However, unless the field of avoidance is capable of being limited with great precision there may be other means of tax avoidance discovered in the normal course of business or worked out by clever tax practitioners which will lead not to the desired result but to some other result of no social value or even of social harm. It may be argued that the taxpayer's interest in the broad results of the incentive will keep him from seeking such means of avoidance. This argument overlooks the fact that each taxpayer has his own narrow self-interest in saving taxes and that this may greatly transcend any small share he may have in the common interest which would be promoted by his doing what the incentive was designed to encourage him to do.

At the present stage in tax policy determination the best chance of success would seem to be for measures with the qualities of simplicity, stability, and universality: simplicity so that the Congress and the public will understand what they are doing and be in position to support it intelligently; stability or continuity for the same reason and so that people may plan with some assurance and that the continued anticipation of tax pressures may thus have a chance to affect action; universality to avoid the turning of tax incentives into special privileges. Devices that are intricate in character and call for frequent and well-timed adjustment may not be adapted to existing methods of formulating tax policy. A very challenging opportunity presents itself, however, in the prospective redesign of a tax system for the postwar period. Thoughtful people everywhere agree that neither the prewar nor the wartime system of taxation will be acceptable for postwar conditions. Economic considerations are almost certain to play a large part in any changes that are made. The economic considerations which many far-seeing economists would like to see given major weight may not be the ones which will dominate postwar tax revisions. The conflict of

interests is too important for us to assume lightly that what economists will consider the public interest will necessarily be served. Nevertheless the volume of economic research related to taxes which is going on in governmental and private circles augurs well for a more careful consideration of and greater emphasis on economic effects in future tax revisions than in the past.

V. Lines of Possible Improvement in Tax Policy Formulation

Although the outlook for the application of economic research to tax policy along certain lines is thus by no means dark, it is not without its discouraging aspects. There are several lines of approach for improving the situation. Some of these are in the direction of changes in structure or procedure in the executive and legislative branches. Such changes would require a long period of study by competent administrators and political scientists and accordingly no suggestions are made in this paper.

There may be action in other directions which, over a period of time, might result in improvement in the formulation of tax policy.

Reference has already been made to the great need for improving the body of basic facts and basic analyses concerning the effects of taxation on the economy. Although they do not take the place of policy determination, these facts and analyses are necessary if policy is to be intelligently formed. In at least some important sectors of the tax field policy recommendations have outrun basic knowledge. In these sectors an ounce of fact is worth a bushel of opinions and recommendations in the formulation of tax policy. A tentative suggestion—and I recognize the point to be a delicate one—is that in the long run tax policy would be improved if students of taxation were in less of a hurry to make policy recommendations. The pressures to make recommendations are very great, even for those who have a strong desire and firm intention to study the economic operations and effects of taxes and to keep away from the policy level. The pressures arise from within as one sees apparently great evils that cry for correction. They arise from without because facts and analyses have little attraction for one's employers or the public or for policy makers who are themselves in a hurry and often cannot take the time to master facts or study analyses. Moreover, when policies must be made it is desirable to use the best available knowledge and opinion even though they are inadequate.

Even so, a case can be made that if a specialization of effort were achieved under which able and nonpolitical scholars with a practical bent and an interest in taxation, whether in the universities, in endowed research organizations, or in the government, could forget for a while about what ought to be done and concentrate only on the facts and their

interrelations, there would gradually be developed a body of basic material that would command increasing confidence and make possible more intelligent consideration by policy makers of the conflicting interests and competing considerations which they must resolve.

Along with this research should go a more widespread public dissemination of tax information. There seems to be a firm belief by the people that they will never be able to understand taxes. Moreover, their problem is not clarified by the many conflicting programs which are pressed upon them, and the frequent wide divergence of opinions among economists has not helped the situation.

Fortunately, not everyone has to be fully informed. We are an organized people and rely largely on the leaders of our organizations. These leaders should absorb as much as possible of the type of information which will be forthcoming from economic research in taxation. Education of this kind will be helpful in distinguishing long-run interest from short-run interest and in recognizing private self-interest which poses as public interest. Such education is necessary also to lead to the broader harmony which underlies much of tax conflict and which, if promoted, may lead to unity rather than divergence of different groups.

It is suggested that the encouragement of research and the education of the leaders of the community calls for the establishment of a journal of public finance. There is no journal devoted to the field of public finance and that field exclusively. Such a journal could make available to the public in relatively nontechnical form the results of research in taxation economics. Such a journal could also cut across the boundary lines between economics, political science, law, and administration. Most tax matters naturally cut across these lines.

It is believed that such a journal should reduce to a minimum policy recommendations. Great care would have to be taken to see that it did not become a forum for special interests to urge policies which they desired. Perhaps holding down the policy aspects would make the journal less interesting, but it is believed it would make it more useful.

With taxation and other aspects of public finance occupying the places they do today in American economic life, there should be a substantial market for such a journal. Moreover, for the experimental period it should be possible to find individuals or foundations who would not insist on a quick result for their money and who would not seek to use the journal to sponsor their favorite ideas.

There may be other better ways of achieving greater knowledge of the effects of taxation and greater dissemination of this knowledge. Certainly some changes are needed. The most disquieting aspect of taxation is the dominating role of conflicting interests based too often on short-

sightedness and ignorance. Conflict is inevitable and should be accepted as a necessary and desirable part of the process of arriving at a tax policy which will be in the public interest. Nevertheless, conflicts have disturbing implications for our society. When conflicts disrupt the social and economic structure, society is likely to create artificially controlling forces and institutions and these may be very dangerous to a democratic way of life. Where the economic importance of taxation is as great as it has become, tax conflicts may cause tax policy to degenerate into a collection of myriad provisions conferring special privileges on numerous minority interests.

The areas of harmony in taxation are almost certainly much greater than appears on casual examination. The principles of tax justice have contributed much of value by their emphasis on the general public interest in a just and fair distribution of tax burden. There is reason to believe that many of the recently developed ideas of economic promotion and control through taxation will likewise extend the area of harmony and thus limit the area of conflict. Additional study to locate more clearly these areas and a wide dissemination of the results, especially to the groups engaged in the conflict, may well be the most practicable steps that can be taken to advance tax policy, and the most valuable ones from the long-run interest of the public.

DISCUSSION

WILLIAM ANDERSON: Dr. Blough says that economists used to look upon taxation as a stepchild, a sort of annoyance that somehow did not fit properly into a text on economics. Still it had to be dealt with because, after all, there is taxation, and it upsets all neat attempts to determine economic costs and to calculate the distribution of wealth. This disturbing nuisance has the further demerit of being something legally compulsory, something that refuses to go up and down like costs and prices in the free give and take of the market.

But if economists underestimated the importance of taxation for one set of reasons, political scientists in the United States have almost wholly ignored it. In their general courses they have dealt with constitutional law, governmental organization, political parties, governmental procedures and administration, and have almost entirely ignored the means by which government operates. Most of them have thought of taxation as primarily an economic question. This was a rather natural conclusion in view of the fact that when economics and political science separated out from moral philosophy into distinct and separate subjects, taxation usually fell to the economists to worry about.

Thus it happens that the subject, although not entirely neglected, has fallen to a group of peripheral, if not marginal, scholars. Finding insufficient sympathy for their studies in taxation among political scientists and economists, they got what comfort they could by associating with tax administrators, tax commissioners, and other varieties of that reprehensible species of men called "politicians" and "public administrators." Through such organizations as the National Tax Association and State Tax Conferences these unevenly matched forces met to bemoan the perversities of legislators who clung to the outworn property tax and the equally benighted activities of elected assessors who made bad laws worse by their archaic methods of administration. Sometimes in more hopeful mood, the scholars in taxation and the administrators drew up model tax systems, and hoped that somebody would do something about them. All things considered it was an unhappy scene and one that was not relieved by the rise of associations of taxpayers whose sole object was to cut the tax bill.

Of course one difficulty in the field resulted from the splitting of public finance into several parts for separate treatment. While taxation fell mainly to a group of scholars in economics, budget making was taken up by students of political science and public administration, tax assessment and collection and treasury management received little attention anywhere, and fiscal policy was dealt with by a separate group in economics.

When Dr. Blough began his paper on this note of the general neglect of taxation, I expected him to follow through with some pungent comments on the shortsightedness of economists and on the almost poetic nature of the revenge that modern taxation has taken upon them for this early neglect. Instead of this he proceeded to give a thorough analysis of the modern

problem of tax policy and an equally careful examination of the conditions under which tax policy is formed.

I find myself in substantial agreement with most of what he said, and I must indeed express my admiration for the thorough way in which he has presented the subject. Much might be said in discussion of the substance of his paper, but time will not permit it to be said here. Only a few comments are in order.

The first significant fact is that the stone that was practically rejected by the builders has become almost, if not in full fact, the head of the corner. Taxation, which was once a sort of minor annoyance, has now become a major factor in the distribution of wealth and a major instrument of governmental policy. Political scientists, as well as economists, now neglect the subject at their own peril.

It remains now to be seen whether both economics and political science are going to rush in to claim the once neglected child as their own or whether they can work out together some joint method to bring it up in the way that it should go. The whole field of public finance presents economists and political scientists with one of the best opportunities for fruitful collaboration in scientific work.

With this in mind I am impelled to make this further comment on Dr. Blough's paper. Throughout it there runs an assumption that economics and politics are two entirely different things; thus economic purposes and political purposes are set down as being different and opposed. Indeed some purposes are designated as "purely political." This I do not understand. The effects of taxation are also designated as economic, as distinguished from political. Indeed tax policy is somehow assumed to be different from economic policy. This reasoning, it seems to me, is open to objection, as presenting an unreal opposition or dichotomy.

The several dichotomies presented do not exist in fact. Such a thing as pure politics (even in the derogatory sense in which the word is sometimes used, meaning, really, impure politics) cannot be found. Economics is a method and a point of view for the examination of social phenomena. Politics or political science is a somewhat different method or point of view. But the phenomena studied are all social phenomena. Public policy and public activities, as well as business activities, are something general that can be examined from various points of view, such as the economic, the political, the religious, or the psychological, for example. But the fact that the disciplines that study these phenomena are distinctive, and that they take different points of view, does not in fact make the phenomena different or separate.

In assuming this opposition or separation between economics and politics, Dr. Blough seems to have in mind something like the difference suggested by John N. Keynes (the elder). In his work on *The Scope and Method of Political Economy*, Mr. Keynes defined political economy as a *social science* as distinguished from a *political science*. Somehow social phenomena are supposed to take place under conditions of free choice and free contract, whereas in political matters there is the element called "coercion" or "authority." Professor P. Sargent Florence in his work on *The Statistical Method in*

Economics and Political Science speaks of economic activities as being *impelled* and political activities as being *compelled*. Here the distinction seems to be much the same. Now the fact of the matter is that much of the work of government is not that of coercing or compelling people to do things, but is rather that of persuading and educating them to certain lines of action and even of serving them in a multitude of noncoercive ways. On the other hand in the realm of business where free contract and free choice are supposed to prevail, there are also many cases of actual compulsion or coercion.

But whatever can be said of this distinction between economics and politics in general, in the field of taxation the distinction does not exist at all. Taxation is by definition a coercive power of government, and economists should deal with it as it is. But while taxation is in the legal sense compulsory, in fact most people pay their taxes without any coercion whatever. Thus we are brought back to the fact that taxation as such must be studied from both the coercive and noncoercive viewpoints, and indeed from various other angles and vantage points as well. It is the almost perfect example of a subject that needs to be dealt with jointly by economists and political scientists.

WALTER S. SALANT: From the impassive tone and objectivity of Mr. Blough's paper you would not have suspected, I am sure, that you were listening to the "Voice of Experience." Mr. Blough has held the hands of the Ways and Means Committee and the Senate Finance Committee all through the Revenue Acts of 1941 and 1942, the Current Tax Payment Act of 1943, and the revenue bill now being considered. A man who has held the Committee's hands in the past few years, even if sometimes firmly in self-defense, and who can still do as much justice to the question of the constitutionality of a proposal as he does to the questions of conflicting interests or political considerations is a man indeed.

Yet I think I detect some scars of battle—perhaps a nostalgia for the quiet calm of pure research—in the suggestion that tax policy might be improved in the long run if students of taxation were in less of a hurry to make recommendations. I am of the opinion that economists can and should make their views known where there is substantial agreement among them and that they should do so in an organized and vigorous, in fact vociferous, way—of course confining themselves to the field within which they are competent to speak. And they ought to make efforts among themselves to analyze public economic questions down to the point at which they can say, "Here we agree; here we agree to disagree; and here we have insufficient information to be certain."

The first thing that the economist can do is to make sure that the broad background of facts is well known. This point may appear so obvious as not to be worth mentioning, but its force cannot really be appreciated until one finds out by hard experience that many of the people concerned with legislation have not the wildest idea of relative economic magnitudes.

You will remember that in the discussions in the late thirties of business recovery it was generally taken for granted that private business capital expenditures had not recovered and that business was on the whole unprofitable. How many legislators, with eyes firmly fixed on statistics of security issues,

knew that manufacturing and mining capital expenditures in 1937 were about as high as they were in 1928? How many knew that during the twenties business capital expenditures constituted only about half of total private capital expenditures and that the lag in the recovery of private capital expenditures in 1936 and 1937 lay not in the fields covered by the term general business but in the fields of residential and commercial construction, public utilities and state and local construction? How many legislators knew that corporate profits in manufacturing, mining, and trade in 1936 and 1937 were not far from the levels of the middle twenties in dollars, despite the fact that prices were lower in 1936 and 1937? How many knew that the failure of profits to recover to the levels of the middle twenties was highly concentrated in the field of finance, railroads, and service industries and did not characterize "business in general."

Many recent examples are provided by the controversies over price control. When the Master of the National Grange testified that farm labor costs, which have risen sharply, constitute one-third of farming costs, who on the Senate Committee questioned him to give details or asked what the relation of total farming costs to gross farm income was? The fact is that in 1943 hired farm labor costs totaled 2 billion dollars, total farming costs 10 billions, and gross farm income 23 billions.

At the analytical level as well, economists can agree on a sufficient number of things to speak their minds. Consider the matter of conflicts of interest. Many apparent conflicts of interest are exaggerated, and the economist has a duty to make that clear. For example, if a given amount of taxes is to be raised in a period of unemployment, it is not, speaking generally, to the interest of people in high tax brackets that this money should be raised from people in low brackets, because the secondary effects of so raising it upon the total level of income are injurious to the high income receivers as well as the low income receivers. Or, to put it more generally, the fights over taxation are usually assumed to be concerned with distribution of a fixed product. It must be made clear that this assumption is not justified; taxation affects the size of the product.

Consider another example. Senator Tydings and Congressman Disney have proposed a constitutional amendment which would provide that, except in time of war, Congress could not appropriate funds by less than a three-fifths majority from each house, unless at the same time levying taxes sufficient to cover the appropriation. Certainly economists will agree by this time that such a proposal has not the slightest basis in economics. Why make the relation between the additional expenditure and the additional taxation a 1 to 1 ratio? So far as economic rationality is concerned, why not a ratio of 1 to 2, 1 to 5, or 1 to one-tenth?

Even where there is no agreement among economists as to what the results of a particular measure would be, that fact is itself important. If the area of agreement and the areas of disagreement or uncertainty are made clear, attention can perhaps be focused on the questions that still remain unanswered.

An example is provided by one of the questions that will occupy an important place in discussions of postwar tax policy; namely, remission of taxation as an incentive to capital expenditures. Economists can certainly agree

that a mere reduction of tax rates which is not conditional on the making of capital expenditures would be a far less effective stimulus than one which is conditional upon such spending. If a corporation will get the benefit of lower tax rates whether it makes the expenditure or not, it clearly has no special incentive to make it. A policy of remitting taxes without attaching conditions would not be a policy of incentive but merely one of hope. Similarly it should be more generally understood that while corporate taxation reduces the net return from a successful capital expenditure, it likewise reduces the net cost of the outlay to the corporation. It is, in fact, far from clear what net effect the high level of tax rates has upon capital expenditures.

I suspect that when we examine the magnitudes of the postwar employment problem we will come to the conclusion that far too much importance is being attached to tax remission and that it will contribute little to the maintenance of high levels of activity. I do not imply that the matter does not deserve attention. On the contrary, so long as there is any chance that it will help—even a little bit—we must give it attention, because the economy is going to need every stimulus it can get.

Rather my point is that economists should not let the public be fooled into believing that tax remissions are sure to do much good, much less into believing that if we set up such a system of tax "incentives" the employment problem will take care of itself. I feel certain that the contribution that we can expect from any seriously considered system of incentives is small in relation to the magnitude of our postwar employment problem. In fact, even if we have a federal budget of double the prewar level and, in addition, if we stop collecting federal taxes altogether, we might very well still have millions unemployed.

I do not delude myself with the idea that economists can exert a decisive influence over the course of policy or, for that matter, that they should. But in my opinion they can exert considerable influence and should seek to do so. Even though legislators may not be motivated very much by economic arguments, they certainly use them, if only to furnish a front of respectability in public discussion. This is well illustrated in the current discussion over the subsidy issue where it is argued, for example, that the holding down of prices is inflationary. This and other arguments are dressed up in the language of economics and thereby impress some laymen. If the economist can do nothing else, he can at least expose the false front and, by eliminating the respectability that this front gives to arguments that are motivated by other reasons, he can force the real reasons into the open.

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REVISING THE POSTWAR FEDERAL TAX SYSTEM¹

By HAROLD M. GROVES

University of Wisconsin

At the close of present hostilities, the objectives of taxation will be more complex and more ambitious than they were after the last war. During the thirties we began the practice of viewing most specific economic measures to ascertain their over-all economic effects. This was not new, perhaps, except in degree, but the change in degree was revolutionary. At least this was the case with taxation, which was elevated from a mere government "meal ticket" to an instrument of grand economic strategy. Even though conditions after the war may not resemble those of the thirties, taxation is likely to retain its new sphere of interest. Intense concern for employment opportunity has been maintained during the prosperous forties, when, in spite of manpower shortages, apprehension has continued as to how and where men employed in the armed forces and in the war industries would find jobs after the war. From now on, each component of the tax system is likely to be called before the bar of public opinion and asked the question: "Do you seriously impede enterprise, employment, and production?" If the answer is affirmative, and if there are alternatives that do not offend in this manner, the tax will probably be selected for discard.

In emphasizing the new broader interests in taxation, the older and equally important objectives should not be neglected. Certainly no one can or should be allowed to forget, after this war, that one of the tests of a good tax system is its adequacy of yield. In this connection we should recall the ten years of federal deficits preceding the war and the new responsibilities growing out of our recent international experiences. The interest in fairness or equity or less inequality in the distribution of income also continues to be a very lively one. The war raised sharply the issue of whether there should not be an income ceiling, and, while the proponents of this idea were not successful even in wartime, it is not likely that the suggestion will be forgotten.

Most people are agreed that the tax system will have an important bearing on our postwar national income. They differ radically, however, as to what kind of a system might be conducive to high levels of employment. Some hold that an inadequately distributed *purchasing power* and a tendency toward oversaving are the limiting factors in production. They usually conclude that if the taxes on large individual incomes, inheritances, and corporate savings could be kept or pushed

¹ Parts of this paper are a condensation of a forthcoming report for the Committee for Economic Development, to be published in 1944 by the McGraw-Hill Book Company.

high enough, the consumption to sustain large output would readily be forthcoming. On this theory, taxation should be used to create a large redistribution of wealth and income. Others take the view that the *incentives* to invest, to risk, and to expand are the limiting factors in national income and full employment. On this theory, the economy is threatened by taxes which attack these incentives.

It is perhaps possible to hold a middle ground between these two viewpoints. Certainly we shall need a postwar market for consumers goods much larger than that which has hitherto prevailed. This renders suspect taxes which impinge heavily upon the propensity or ability to consume. On the other hand, our experience during the thirties indicates that solicitude for the market for consumers goods is not enough; we must have a lively interest and a substantial outlay in new investment and new enterprise. Taxation must not destroy the interest of investors and entrepreneurs in projects that look to the future.

During recent years much has been heard about incentive taxation. This term is used to describe a variety of ideas and proposals, most of which call for preferred treatment of business income or for rewards and penalties deemed appropriate to stimulate output. Many of these ideas and proposals developed from the hard experiences of the thirties—a period characterized by a keen sense of insecurity and a great (sometimes almost pathological) tax-consciousness. These proposals sought to solve the economic problem through the tax mechanism. Taxes on idle capacity and hoarding were recommended to replace those on production and investment. Tax concessions for “giving employment”—that is, taking on an extra man—were proposed and one such scheme was tried out unsuccessfully in Germany. Of course, it is quite one thing to set up a tax system that will conserve the initiative generated by the economic system and another to devise a scheme of levies which will itself generate initiative. The right kind of an economy, with the right kind and degree of governmental policing, should provide its own incentives. If it does not do so, something in the mechanism is out of gear and the proper procedure is to find the cause of the trouble and correct it. Moreover, it is doubtful if taxes on idle money and capacity can take the place of the business confidence that normally keeps the economy dynamic. Very probably the best form of “incentive taxation” is a sensible and well-balanced tax system.²

Modifications in federal taxation to meet postwar needs should work toward a system without duplication of taxes, moderate as to degree, universal in application, and free from special privileges. The emphasis should be placed on a direct personal tax to be measured by all income and to be paid by a large majority of American families.

² This expresses no opposition to experience rating in unemployment compensation. Here the attempt is made to reduce or wisely distribute a specific cost of production.

Approaching the problem of needed modifications in postwar taxation more specifically, one may give first attention to the heavy business taxes that have come to feature our system. The heaviest and most productive of these taxes at the present time is the excess profits tax. Concerning the justifications of this tax under the extraordinary conditions that prevail during a total war, nothing need be said. The peacetime application of the tax is our present concern. It may be argued that the tax should be retained because it affords a means of recapturing the excessive earnings of monopolistic business. But no means exist for distinguishing earnings that are the result of monopoly from those which are the rewards of superior efficiency and successful risk-taking. It will be far more important, after the war, to *prevent* monopoly and the restriction of output that usually attends it than to recover for government a share in the booty. Prevention in this case is not a task for the taxing power but one for the police power. Everyone knows that the excess profits tax sets a new high in complication, administrative difficulty, and compliance cost. In reformulating the postwar tax system, the excess profits tax should be eliminated.

The declared-value excess profits tax, still hanging over from the Industrial Recovery Act of prewar days, warrants and has even fewer friends than the war excess profits tax and should certainly not survive the latter.

The postwar business tax problem of greatest importance concerns the corporate income tax. Historically, the corporate and personal income taxes were designed as an integrated system. This accounts for the origin of the so-called "normal" tax, which was set at the same level as the levy on corporations. Dividends were exempt from the normal tax and thus double taxation was avoided. Gradually, in the early twenties, the two taxes parted company; their rates moved in opposite directions, and the corporate rate grew until it was several times that of the normal tax. To make the divorce complete, dividends, in 1936, were made subject to the normal tax. What had once amounted to a withholding levy had now become a full-fledged business tax.

In its incidence and effects, the prewar business tax system left much to be desired. While one should not make very positive assertions about the incidence of any tax—and certainly not about that of the corporate income tax—it can be said with assurance that the tax cannot rest with the corporation. It is not possible for inanimate objects or inanimate creatures of the law to bear taxes. There are reports about horses being on public pay rolls and dogs inheriting fortunes. But there are no such stories about corporations paying taxes because, in the last analysis, this cannot happen. The taxes come out of somebody with whom the corporation does business; it might be the stockholder, it might be the customer, it might be the wage earner. The consensus of theoreticians

and businessmen holds that most of the tax is ultimately paid by the stockholder, but there is an important minority who insist that a corporate income tax is but a "sales tax in disguise" and is borne by the consumer. The occasion is not propitious for a discussion of incidence theory, but it is in order to observe that the tax does not make much sense, whatever view is accepted. If the burden is on the stockholder, it means doubling up with the personal tax; and if the burden is on the consumer, it means a haphazard kind of consumption tax. If what is desired in a business tax is a levy that can surely be passed on to the consumer, a tax based on gross income or "value added" would serve better than a net income tax. Best of all in this respect would be a retail sales tax. But why pick on the consumer?

As to the effects of the corporate tax: First, it discriminates between stock and bond financing and encourages debt. With a 40 per cent corporate tax, every dollar earned for the bondholder is worth a dollar, but every dollar earned for the stockholder is worth only sixty cents. Bond financing may have a proper place in business financing though many are skeptical about this, for one reason because long-run dollar contracts involve speculation on the purchasing power of money. More important still is the fact that bond financing involves a high fixed charge which constitutes an element of insecurity for business. At least one can say that there is certainly no good reason why the tax system should *favor* bond financing. The SEC and state utility commissions constantly discourage bond financing but they are contradicted by a tax system that has exactly opposite bias.

The double tax on profits is bad for incentives. It is true that profits are often concentrated in the upper brackets of income. Here they take the brunt of the progressive scale of the personal tax. This may be justified in the interest of reduced inequality, but what justification can there be for a double tax in addition?

Corporate taxes are at best a crude way of collecting from individuals. They make no distinction between the poor widow, whose small dividends constitute her only pittance, and the affluent millionaire stockholder, who could live excellently on 1 per cent of his receipts.

The author is familiar with the contention that corporations receive governmental benefits and privileges for which they should pay and that it is unrealistic to identify these entities with their stockholders. This approach to the problem of business taxation seems of far less importance than the analysis of incidence and effects. The benefits of government are not apportionable with any degree of precision. Who knows what his pro rata share of the benefits from a battleship may be? How can these benefits be apportioned among corporations or between them and their customers and wage earners? Moreover, it is not at all clear

that we should distribute federal taxes according to benefits even if we could. In the last analysis, all taxes come out of the income or capital (actual or potential) of *individuals*. Will division among individuals be more equitable or otherwise more desirable because business taxes are levied? This is the important question, and, in searching for the answer, one gets little guidance from any consideration of benefits.

It is contended that to treat a corporation like an association of stockholders ignores the corporate entity and is unrealistic in our modern era. This issue had better be decided by a comparison of the incidence and effects of the alternative procedures. As previously suggested, the incidence and effects attending the separate-entity treatment are such as to make it vulnerable to attack. The association-of-stockholders treatment rests on the same solid foundation as the personal income tax.

Corporations do receive a special privilege in the grant of the right to operate as limited liability associations, and this is the basis of many franchise taxes which confuse and complicate the tax systems of many units of government. Under modern general incorporation laws, however, this privilege is available for the asking. If competition were effective, the value of this privilege would be reduced to zero. It is true that competition is not that efficient, but corporate taxes make no pretense of measuring the results of monopolistic practices. That there is some value to the privilege of incorporation may be conceded, but what this value may be in any given case is entirely a matter of guesswork. Moreover, the states, not the federal government, grant most corporations their franchises.

The conclusion might seem to be that the corporate tax, like the excess profits tax, adds nothing of value to the tax system and had better be discarded. However, we have yet to reckon with undistributed profits. The corporation can be used as a savings bank for private individuals. It almost inevitably is used as a means through which a large part of the flow of income reaches individuals, if at all, many years after it is earned. This is not to say that corporate reinvestment is a bad means of corporate expansion. On the contrary, it is one of the most economical means by which corporations—particularly small corporations—get the sinews of growth. But a personal tax system that ignores reinvested corporate earnings is omitting from its base a large part of what the nation earns and saves. Either the personal tax system will be extended to reach this income or we shall continue to have independent corporate taxes.

An undistributed profits tax was tried in 1936 but it proved so unpopular that it lasted only three years. This "noble experiment" was ill-conceived and ill-executed from almost any point of view. Particularly resented were the facts that the tax doubled and redoubled existing

taxes, that it exerted very strong pressure to declare all earnings out as dividends, and that its impact was especially hard on small companies who rely heavily on earnings for new equity capital.

One solution of the problem—and one that has a great deal to recommend it—is that of treating corporations like partnerships and assessing individual stockholders on their pro rata shares of corporate earnings, whether or not distributed. This procedure would, in my judgment, be a big improvement over either our present double-decker system or the undistributed profits tax of 1936.

But there are important objections to the proposal, of which we may mention and briefly discuss two. The first is that income in the hands of the corporation is not available to the stockholder for taxes or for any other purpose. Of course, the stockholder does acquire economic power when the corporation earns money. But the power is not in available form. By long-standing custom, the corporation is regarded as one entity and the stockholders as another, and, while the two are closely related, they are certainly not one and the same.

Some students have attempted to solve the problem presented above by allowing or requiring corporations to issue taxable securities to cover pro rata shares of undistributed earnings. But even if the legal question here involved be waived, the proposal presents no simple solution. Its purpose is to permit the stockholder to realize cash (by the sale of his new security), or to increase his equity in the company (meeting his tax from other resources), at his option. Some weight should be given to the objection that "capital structures of corporations should not be controlled by tax avoidance considerations." But more important are the mechanical and valuation problems involved. For instance, how would it be possible to capitalize small reinvestments and make proper allotment to small stockholders? How treat the case of the corporation that has current income to reinvest but has an accumulated deficit from past operations? Should the value of securities accepted for tax purposes be the proportionate share of earnings presently added to surplus or the market value of stocks distributed? The last word on the paper distribution of reinvested earnings has not been written, but, until better techniques are available, it must be concluded that the use of this device does not provide an adequate solution of the problems of "partnership procedure."

The second difficulty with the pro rata share method is that it would be troublesome to administer, especially in the case of large companies. To trace earnings among many types of securities and through several layers of holding companies, as would be necessary in some instances, would be a fairly involved process. Actually, under modern corporation law the right of the stockholder to a fixed place in the capital structure of the corporation is not absolute, and a pattern of

hypothetical distribution, now announced, might later not be followed. A change in corporate income by audit would mean changing the income status of thousands, and, in some cases, hundreds of thousands, of stockholders all over the country.

If the pro rata share solution were accepted, it would probably be desirable to confine it to small corporations and to tax the large ones on undistributed profits. (It must not be forgotten that of four to five hundred thousand corporations, only a few thousand are large institutions with long lists of stockholders scattered all over the country. For smaller companies, the partnership method would present no great administrative or other difficulties.) But a revival of an undistributed profits tax as such would be about as popular as a revival of prohibition. Nevertheless, the partnership method has substantial merit: it is the most direct, simple, straightforward means of integrating corporate and personal incomes for taxation purposes. It should be seriously considered as a prospective solution of a difficult problem in postwar revision of the tax system.

Another proposal for dealing with undistributed income without a corporate tax is to rely on the taxation of capital gains under the personal income tax to reach such receipts.

At present, undistributed profits are taxed once to the corporation through the general corporate income tax and once to the stockholder through the personal tax when capital gains are realized. However, the personal tax does not apply fully to capital gains. To make the capital gains tax fully effective, the following changes would be required: ceiling rate and other special rate provisions would have to be removed; limitations on deductions of capital losses would have to be lifted; and gains and losses on transfer by gift and at the death of the taxpayer would have to be made taxable. Were the corporate tax removed from the picture and were capital gains made fully taxable, undistributed earnings would eventually be subject to the personal tax completely and to it only.

This proposal makes a large concession to reinvested earnings through the delay involved in applying the tax system to such receipts. There is no big difference between receiving a \$100 check and investing it in corporation stock, on the one hand, and having the corporation do this as one's agent, on the other. It is undoubtedly impossible to treat accrued economic power on a par with that which is "realized," but the difference should be minimized rather than magnified. Moreover, the taxation of capital gains has proved one of the most difficult, controversial, and unsatisfactory experiences in American income tax history and to throw the whole issue of undistributed earnings into this basket would probably mean confusion worse confounded.

A proposal involving less deviation from present methods, and one

that will probably be more acceptable in the postwar era, is to follow the lead of the British and use the corporate tax as a withholding levy on dividends distributed out of current earnings and an advance payment on reinvested earnings. The corporate tax rate would correspond to the standard or an intermediate rate applied to individuals. The stockholder would be credited in full for the tax paid by the corporation and might be entitled to a refund for overpayment. The corporation would pay the same tax on reinvested as on distributed earnings, and, in the former case, the credit to the stockholder would be made at the time of a subsequent distribution or when the stockholder realized a capital gain.³ Thus corporations would continue to pay a business tax in form and these business entities would continue to serve as accounting and collection agents for the government. But there would be no duplication of taxes. Reinvested earnings would be held for some current tax accountability but there would be no pressure from the tax system against the retention of earnings.

More specifically, this proposed combination of withholding and advance payment on retained income would operate as follows: Assume that the low-bracket personal tax rate is 20 per cent. Corporation A earns one million dollars in a given year, its income being reckoned as at present. On this it pays a tax of \$200,000. Half of its remaining income is distributed and on this the corporation levy is treated in all respects like a withholding tax; no further obligations are due unless taxpayers are in the higher brackets of income and have surtaxes to pay. In the case of taxpayers with low incomes and many dependents, refunds may be due. For purposes of calculating the base of the personal tax, the withheld tax on dividends is added to the dividends received. On the \$400,000 retained by the corporation, the tax is paid in advance of distribution and the credit does not apply until the distribution occurs (through delayed dividends or capital gains realized by sale, gift, or death transfer of securities).

The above system is far from perfect as an integration device and it involves plenty of administrative difficulties of its own, particularly in crediting the withheld tax in case of delayed dividends and realized capital gains. The problem to be solved here is one of the toughest in the tax system and there are no simple and easy solutions. The withholding-advance-payment system seems as fair and otherwise desirable a compromise of the interests involved as is likely to be achieved.

The corporate tax has been very productive of revenue, but an integration of corporate and personal taxes would not leave an insuperable replacement problem. It would collect a considerable sum from corporations themselves and would add to the base of the individual tax

³ As to the capital gain, this is a suggested departure from the British practice.

through a substantial increase in dividends. There are precedents for such procedure both in British practice and, to some degree, in earlier American practice. To avoid precipitous adjustments, the change could be made in two or more steps.

The proposal to integrate the corporate and personal taxes by the elimination of duplication between them can be viewed as the elimination of the corporate tax except as to form. But it can also be viewed as a reduction in the personal tax to the extent of the overlap. If taxation is a drag upon investment—a view very widely held—this relief at both ends of equity security ownership should remove the impediment. Or, approaching the problem from another angle, it can be said that the elimination of this duplication in corporate and personal taxes would result in a reduction of prices, or an increase in the peacetime rate of corporate profits, or both. Any of these effects would encourage expansion of investment, output, and employment.

It is concluded that we should make every effort to integrate successfully the corporate and personal income taxes. No modification of the tax system is more important and none rests on firmer ground.

The integration proposal is based on the conviction that the personal income tax should become the mainstay of federal revenues in the post-war period. If this is to be true, we must contemplate a personal tax with a broad base and a high standard rate. Our present terms of the tax, particularly the exemptions and standard rates, are little, if any, more severe than were needed before the war. By the same token, they are too generous for the present emergency. The prewar situation, in which only about four million taxpayers paid direct taxes to the federal government, was little short of scandalous. The average citizen is beginning to appreciate that it is better to pay some taxes and have a job than to pay no taxes and be without a job. Both for revenue and for morale, the direct tax load of the future must be very widely shared.

The upper end of the income tax schedule is intemperately severe, at least for peacetime application, and should be scaled down a quarter or a third, or the higher rates should be confined to levels of income where relatively small amounts of potential investment capital exist. A 90 per cent tax reduces a 20 per cent yield to 2 per cent after taxes—a return insufficient to justify much risk-taking. It is sounder to plug loopholes than to insist on intemperate rates of tax. On the other hand, some restraint in the reduction of surtaxes is warranted by concern for the maintenance of a high standard rate and because of the interest in preventing undue concentration of wealth and income. Some strengthening of death taxes—where the incentives are less important—might compensate for a one-sided reduction of income tax rates.

The income tax should apply universally to all income, regardless of

source, and exceptions to this rule should be kept to the barest minimum. The tax-exempt securities' refuge is one of the most conspicuous of these exceptions and should be one of the first to go. In addition to violating the universality rule, just stated, tax-exempt securities offer a special and highly unstrategic advantage to the most riskless of investments. Capital gains are entitled to special consideration for the time element in their accrual and because some of them represent reinvested earnings previously taxed. If allowance is made for these special characteristics and the surtaxes are reduced to reasonable levels, these sources of income should come under the universality rule and be subjected to the same rate of tax as other income. By the same token, capital losses should be deductible against any positive income. A plausible case can be made for the segregation of losses and for confining their deductibility to capital gains. But this type of one-way rule sacrifices taxpayer good will and involves inequities that are more important than any compensating advantages. The notion that capital gains do not constitute genuine income will not stand rigorous analysis.

Income tax administration should be substantially strengthened. Thus far government investment in this important field has been confined largely to spots where a large return could be reaped for each dollar of outlay. The dollar that is spent for income tax policing is necessary even though it brings in no direct return. We all know what happened when the American states entrusted administration of the intangibles property tax "to the honor of the individual." Much income that is taxable by the federal government is subject to no objective checks whatever. Not all this income can be checked, but there are ways and means of checking a much larger portion than is now covered. The direct gains in morale and the indirect gains in receipts are the criteria for the success of such a program.

As previously stated, the program here presented contemplates the personal income tax as the mainstay of federal revenues. Some may prefer less emphasis upon a personal tax, hoping to witness the development of a federal general sales tax in the postwar period. I doubt the advisability of such a development. The states, with their more limited financial resources, have already employed this source and may employ it further. At any rate, their taxes are dominantly regressive. The federal government, with its greater financial powers, should stay out of this field. In addition to the point of equity raised against sales taxes, there is the fact that these indirect levies avoid the personal discipline which is conducive to governmental economy. Mr. Townsend knew what he was about when he proposed to float a fabulous pension scheme on the back of a transactions tax. Finally, there is something to the view that a wide market is essential to high levels of postwar

production and that a sales tax is a threat to this prospect. Altogether, the case against federal general sales taxes is quite convincing.

The arguments against a general sales tax, just cited, do not apply with the same weight against the special excises. There are those who can see no difference between a tax on whiskey and a tax on bread, and they cite the inelasticity in the demand for the former to support their case. The moral difference in the two levies lies in the fact that the one leaves the taxpayer an alternative to the tax quite compatible with the national interest, while the other does not.

There can be no doubt that, with principal reliance on a broadly based personal income tax (de-emphasizing business and sales taxes), the tax system would be more consistently progressive at all levels of income than the one which prevailed before the war.

A word should be added about the inequities that arise in income taxation because income is gauged by too short an accounting period. In the case of corporations, the problem is one of ignoring the losses of past years in assessing the income of the present year. A tax which is paid out of current income, before the impairments on capital suffered in previous years have been made good, really comes out of capital. During most of the years of heavy losses in the thirties, carry-over privileges for corporate losses were entirely suspended. The Revenue Act of 1942 does allow a two-year carry-forward and carry-back of losses. This is by far the most generous provision for losses that American business has enjoyed. But the carry-over period is short compared with that allowed by the British; namely, six years. During the thirties, even with a six-year period only two-thirds of capital goods industries would have received full credit for losses. A six-year carry-over seems like a fair allowance and one well worth its cost in revenue. Among other benefits of less preoccupation with the annual period in income tax accounting would be relieving the pressures to reduce allowances for depreciation and obsolescence—pressures which add little, if any, to the long-run revenue of the government and which are impediments to industrial expansion and technological progress.

The limitations of annual accounting are even more serious in the case of individuals. Under the present system, a person with income that alternates between nothing and ten thousand dollars will pay half again as much income tax over the years as one who has a steady income of five thousand dollars. Much income tax litigation involves timing and the amount might be greatly reduced if timing were made less important. Income that accrues over a number of years ought not be subject to high-bracket rates because it is realized in one particular year. The British policy of exempting casual income from taxation is, in my judgment, a fundamental error. Almost all income is casual

to a greater or lesser degree. The answer is not to exempt income because of its casual character but to take due account of this characteristic in applying the rates.

To be sure, what experience we have had with averaging (a good deal in Great Britain and some seven years in Wisconsin) has not been very happy. Attempts at averaging have been supplanted by a carry-over of losses. The trouble with these systems was that they sacrificed the "currency" of the income tax; that is, they involved the opposite of what the Rummler plan aimed to achieve; they required people to pay taxes on income which was several years "cold." Time does not permit an elaborate consideration of the problem. However, the negative results of these experiences with broadening the accounting base are, in my judgment, not conclusive. I think it is possible to devise an averaging system that will avoid the defects of those previously tried and at the same time give relief from high-bracket rates to persons with fluctuating income. Any complication to income tax procedure introduced by this addition would be worth its cost and could be offset by simplification which would involve no sacrifices of important interests.

Revision of the tax system along sensible lines will not provide a panacea for our economic ills. But it can be extremely important in sustaining morale, without which the system cannot continue to make progress.

DISCUSSION

GERHARD COLM: I believe Professor Groves has given us an excellent basis for a discussion of the federal tax system after the war. He rightly emphasized: (1) that we must develop postwar economic and fiscal policies to promote full and adequate peacetime use of our national resources; (2) that tax policy, though it should not be considered a panacea, must play an important role in such a policy designed to promote employment and production. He said: "From now on, each component of the tax system is likely to be called before the bar of public opinion and asked the question: 'Do you seriously impede enterprise, employment, and production?' If the answer is affirmative, and if there are alternatives that do not offend in this manner, the tax will probably be selected for discard." I propose to accept this new paragraph in our criminal code without objections. Harold Groves has brought before the court today the corporate income tax, suspected of serious violation of the new crime. He presented the evidence, found the defendant guilty, and recommended the death sentence to be executed by stages.

In discussing the statement of Prosecutor—I mean Professor—Groves, I, presumably, am to act as counselor-at-law for the defendant. In that capacity I have the duty of searching for weaknesses in the indictment and presenting whatever might be said in favor of the defendant.

Professor Groves says that the corporate income tax has no right to exist because it taxes something that has no reality; namely, the corporation. In his opinion, the corporation creates a tax problem of its own only to the extent that it does not currently distribute all profits to the stockholders. I submit that a corporation has characteristics which distinguish it definitely from the individuals for which it supposd to act, such as limited liability, legal and operative continuity (as compared with the limited life span of the individual), easy transfer of ownership and management, access to nation-wide (sometimes even world-wide) sources of financing, possibilities of intercorporate affiliations with or without integration of management, and others. These characteristics determine, I believe, the very essence of many of our modern aspects of large-scale business operations. All these characteristics have been developed perhaps on the basis of a legal fiction but have become reality and are protected by the law. The corporation is as real as modern business and is not just "a screen" that can be and should be disregarded.

The argument that corporate taxation in addition to individual income taxes involves double taxation on the stockholder is not valid if and to the extent that the corporation is recognized as an economic reality *sui generis*. There is ample justification in the government claiming a share in the return from corporate activities, along with the shares going to other factors of production; namely, labor, management, and capital. The corporate tax can be fully justified on the grounds of its financial productivity, as well as on the grounds of tax philosophy, unless it can be proven that it really impedes enterprise, employment, and production.

Professor Groves presented two arguments on which his economic case against the corporate tax rests:

First, it discriminates between stock and bond financing. This is a valid observation and a serious criticism of the corporate income tax in its present form. It is not, however, a justified basis for a death sentence, since there are various techniques available to eliminate or reduce this discrimination by modifying the present law.

Second, the corporate tax is "a drag upon investment," and its elimination would encourage expansion of investment, output, and employment. Professor Groves has not presented his evidence for this statement. The prosecutor simply says the defendant is guilty of murder because a murder has been committed. I beg him to submit his proof. The task of promoting investment, output, employment (and in another context Professor Groves rightly adds, consumption) will require all ingenuity and a concerted effort. By sacrificing one particular tax as a scapegoat and by concentrating our efforts on the drive to eliminate this particular tax, we may divert our energies from the broader problem with possibly disastrous results.

In laying out the criterion that should be applied in deciding on the elimination of a particular tax, Harold Groves wisely included the clause: "... if there are alternatives that do not offend in this manner." He failed, however, to specify what other taxes could be increased without undesirable effects. If he assumes that we shall be able to do with less taxes in the postwar period, he should prove that we cannot derive greater benefits from reducing other taxes. In this respect he did not present the bill of particulars under the general rule of the code.

In the short time at my disposal, I cannot attempt to analyze the factors which, in my opinion, may impede production after the war. Without such an analysis I do not believe that a constructive and comprehensive answer to the question so aptly posed by Professor Groves can be given. Nevertheless, I wish to indicate my conviction that to some extent corporate taxes may impede production in conjunction with other factors. This is the case, first of all, if the rates are excessive. I believe that a considerable reduction in the necessarily high war tax rates is called for in the postwar period.

A reform of the corporate tax field in other respects appears desirable also. I am in full accord with Professor Groves that we should distinguish between taxation of small and large corporations. I propose to distinguish between the "private" corporation, which has no access to the national capital market and cannot be used for intercorporate affiliations, and the "public" corporation with access to the national capital market, whose securities can be traded on stock exchanges and bought by insurance companies and other corporations. Taxation according to the "partnership principle" appears most desirable for the small or private corporation. For the large or public corporation, a corporate income tax appears justified.

For the public corporation a solution must then be found for the problem of undistributed profits and the relationship between the corporate income tax and the individual income tax. I do not believe that Harold Groves' proposal to adopt the British method of credits for dividends received eliminates or sufficiently reduces the tax discrimination between distributed and nondistributed profits, unless the tax collected at the source is very high. Professor

Groves, of course, wants to supplement the British method by the adoption (or retention) of the capital gains tax. This, in my mind, would be a solution only if it were a tax on nonrealized as well as on realized capital gains (inventory method). This, in my judgment, would be wholly impracticable. In this respect I wish that consideration would be given to the proposals made by the committee of the National Tax Association on federal taxation of corporations a few years ago which aimed at taxing undistributed profits but tried to avoid the defects of the 1936 law.

Finally, I would like to propose that further consideration be given to some forms of incentive taxation in connection with the corporate income tax. I fully share Professor Groves' skepticism with respect to the specific proposals to which he referred. I do think, however, that there are other possibilities worth further exploration. I find, for instance, that Dr. Kimmel, in a recent Brookings Institution publication, made some suggestions concerning tax incentives for new ventures, and I may also refer to some suggestions of this type which I made in an article in *Social Research*¹ a few years ago.

Summing up, I do not enter a plea of "not guilty" for my client. I do think that the corporate income tax structure should be revised in line with a policy designed to promote adequate use of our national resources. I plead only for clemency and urge you to send the corporate income tax not to the death chamber but to the reformatory. If the culprit can be cured of certain bad habits, he can still become, I trust, a promising and respectable member of our postwar tax family.

RALPH E. FLANDERS: Dr. Groves' paper is so comprehensive as to leave little need for addition and so nearly in line with the views of your speaker as to make serious criticism difficult.

There is no harm, perhaps, in driving home one of his points. The obvious primary purpose of federal taxes is to raise the funds needed for governmental expenditures. Beyond this primary purpose there have always been secondary ones, aimed at bringing about real or imaginary social benefits. Among these secondary purposes have been control of commodities subject to abuse (excise taxes on tobacco and alcohol), redistribution of wealth, the breaking up of landed estates (in England by the death duties), etc.

Whether or not we have secondary *purposes* in federal taxation, we cannot escape secondary *effects*. Effects outside the fiscal purposes have always resulted from changes in tax policy. This is no new condition. What is new is the enormous volume of this taxation in the aggregate and its heavy incidence on individuals and enterprises. This new volume and weight, culminating in our current war taxes, cannot fail to produce secondary effects of such great importance, whether for good or ill, that the original aspect of fiscal policy bids fair to become itself of secondary importance so far as the well-being of our people is concerned.

In carrying out the tax policies necessary for a high level of production and employment in this country, we are faced with problems of two different sorts. One is in the sphere of economics; the other in the sphere of politics. While

¹"Full Employment Through Tax Policy?" *Social Research*, November, 1940.

there are bound to be some differences of opinion as to questions in the first sphere, we are still more likely to find it difficult to get a meeting of minds as to what is politically feasible, even when the economically desirable has become clear to all.

For instance, it may not be politically feasible to eliminate corporate taxes, even though it might be desirable from the standpoint, let us say, of farmers and industrial employees. It may not be politically feasible to have as high a normal tax rate and as broad a base as purely economic considerations might suggest. The best hope for accomplishing these changes, if they are proper ones, lies in the possibility of achieving a more nearly steady and higher level of employment and production in this country. If this can be maintained at around 135 or 140 billions a year at the present price level, with a national postwar budget of 18 or 19 billions, there will be enough of a drop in tax rates so that a reasonably broad base and normal rate will seem and really be far less burdensome than is the present tax structure.

With the same fortunate set of conditions, there would be a chance that the relief on corporation taxes would be great enough so that the net gain could be distributed partly in wages, partly in lowered prices, partly in necessary capital accretion, and still leave the high returns that are necessary to investment if the thousands of new ideas that are buzzing about the country in these days are to be permitted to add their proper share of expanded employment and production to the national economy.

To your speaker's mind, the most difficult problem of all, critically speaking, relates to the problem of undistributed liquid profits as a tax refuge for the large stockholders, with the related problem of capital gains and losses. If the normal tax on corporation income is retained, with credit given to individuals for dividends distributed, then to this limited extent such undistributed income will be taxed. On any reasonable postwar normal tax, the relief from the present excess profits taxes (which in peacetime would be absurd and destructive) will be so great that the added withholding would almost be embraced as a pleasure, while the losses in taxes from nondistribution would be more than made up by general increase in taxable earnings.

As to capital gains and losses, were these to be entirely eliminated and the present inheritance tax structure retained, the original withholding tax plus the inheritance tax when the retained earnings finally come before the Collector of Internal Revenue, would add up to a considerable percentage of the total earnings, and it might well be argued that taxes on retained earnings of this order of magnitude, as compared with more drastic treatment, would result in losses of revenue which would be, in the long run, a small price to pay for the stimulation of enterprise which will result from a tax system which focuses one eye at least on the expansion and maintenance of employment. Yet it will be politically difficult to defer the collection on capital gains until the hour of death.

There is one other possibility of usefulness in tax policy which should be mentioned. The tax structure should be calculated to balance the budget at a definite rate of national income, and held there through good times and bad. With this rate continuous, it will have a deflationary effect when business

conditions get inflationary. Then large tax returns will become available for retiring bond issues (particularly those held by banks); and, at the same time, the arrangement will be inflationary in periods of low employment and production when government credit will need to be expanded. This cannot be the sole reliance for controlling the business cycle, but it will help. Our experience of the last ten years indicates that there is no direct arithmetical relationship between money supply on the one hand, and business activity and employment on the other.

The emphasis on the political aspects in this discussion has not been made with any spirit of complaint against the restraints which political requirements put about the adoption of good economic policies. Political conditions are a fact which have to be reckoned with as much as do the principles of mathematics. I hope that sometime social scientists, businessmen, consumers, and other groups in the body politic can themselves get a sufficient grasp of and expertness in politics to make it possible to gain the adoption of policies which are for the best interests of all concerned.

It would be difficult to think of any area in which it would be more useful to the ordinary citizen to get that conjunction of political feasibility and good policy than in this area of fiscal policy, and Dr. Groves' paper is a most effective contribution to this end.

POSTWAR FEDERAL INTEREST CHARGE¹

By CARL SHOUP
Columbia University

The present paper reviews some general relations between interest and taxes, analyzes the current flow of federal interest payments to various classes of recipients, projects the analysis into 1946 under assumptions of two and a half more years of large deficits, and concludes by computing the added taxation that would equal the economically significant portion of the interest payments.

I. General Considerations

Three questions of a general nature are considered here. First, what are the foundations for the traditional public finance doctrine that interest requires an equivalent amount of taxes? Second, does a combination of interest and taxes always create an economic problem or may it be a frictionless transfer? And third, does any such problem tend to persist, or is it resolved (perhaps only into another kind of economic problem) by the same forces that created it?

Interest and Taxes. Postwar interest payments on the federal war debt give the recipients a claim on the community's postwar output of goods and services. It may be assumed that, in general, the postwar production of goods and services is no greater because of the reward or incentive element in the interest charge than it would have been if the government had followed some other war finance program that did not involve the payment of postwar interest. Consequently, to the extent that the recipients of the interest exercise their claim on the economy's output by spending the interest receipts (either on consumption or capital formation), more goods and services must be produced, thus cutting into leisure or unemployment; or, if production is already so large that it can be increased only at sharply rising costs, if at all, the exercise by the interest recipients of their claims must force others to get along with less, or to get less for a given amount of work. This forcing of others to get along with less, or to get less for a given amount of work, is customarily brought about either through taxation or through a rise in prices. Traditionally, in public finance literature, the amount of extra taxation levied because of the interest charge alone is assumed to be equal to the interest charge. Most of the writers apparently assume it to be self-evident that the interest alone (apart from any project of repaying the debt) does not require tax revenue greater

¹ This paper was prepared in connection with a study of economic aspects of public finance being carried on under a grant of funds from the Rockefeller Foundation to Columbia University.

than the interest, but does require tax revenue of at least that amount because borrowing to pay interest leads to an impossible situation in the long run. The long-run difficulty is commonly described as a collapse of the government's credit. The reason for the collapse is not always specified. But few if any of the analyses imply that it comes because the central government is unable to get or create money somehow or other to meet its debts. Rather, the collapse reflects a belief that the government's financing methods imply a substantial fall in the value of money. If this interpretation of the traditional approach is correct, that approach accords with the view that taxation required by the interest payment is needed to prevent others from bidding away from the interest recipients part of the goods and services to which their interest receipts nominally entitle them. Traditional public finance doctrine, which says the taxation is necessary in order to "pay" the interest (the implication being that there is no other ultimately workable way to pay it), may therefore prove not much different, in essential respects, from the mode of speaking whereby taxation, whatever its purpose, should "never . . . be undertaken merely because the government needs to make money payments."²

In any particular case, the amount of extra tax revenue needed to maintain economic stability might be less than the interest, or it might be more, and would doubtless vary over time. The one-for-one relationship postulated by traditional doctrine must be considered simply as a rule of thumb. These remarks will not, it is hoped, gloss over essential differences, or detract from the great service rendered by recent analyses in pointing out how carelessly traditional public finance doctrine has taken for granted the necessity for a one-to-one relationship of expenditure increments and tax increments. But it must also be noted that there are as yet few quantitative guides on what other ratios, if any, to use. If the traditional one-to-one ratio became in some respects a tabu, it was a tabu that developed slowly over decades and even centuries, first, because wide and persistent departures from it were commonly accompanied by serious economic instability, and second, because no one had demonstrated how to compute another ratio more likely to give stability in any given situation.

If, indeed, the interest recipients never exercised their claims on the community, but hoarded their interest receipts forever, the money to pay them could be created by the central bank, without any economic effects. This assumption, however, is obviously unrealistic. (Incidentally, serious political and social effects might result from the uncertainty whether the interest hoarders would eventually exercise

² A. P. Lerner, "Functional Finance and the Federal Debt," *Social Research*, February, 1943, p. 40.

their claims.) If it is assumed that, in the absence of spending by the interest recipients, there would be large and continued unemployment, the exercise of their claims on output could proceed, unchecked by additional taxation, without forcing others to give up anything except some undesired unemployment (with some exceptions owing to lack of mobility of factors). Here, the interest problem is eclipsed by a much larger one, and until the latter is dealt with the first does not have much meaning. Even without this assumption there remains the probability of recurring periods of unemployment, coupled, however, with periods when output would be high even if the interest recipients were not exercising their claims. Consequently, in a general analysis of the problem, it seems reasonable to assume that the interest payment does require higher tax rates or new taxes, if the interest recipients are to exercise their claims to the degree they wish, at unchanged price levels.

Disassociation of Interest and Taxes in the Individual's Mind. The problem has been stated, up to this point, in terms of the interest recipients and the "others." This is merely a convenient way of speaking. Everybody may be an interest recipient, so there may be no "others" as physical entities. Still, the problem as outlined above remains. It remains, because the individual as a government bondholder has a legal right to receive his interest whether or not he is made to contribute to the taxation levied on account of the interest, and he knows this. From his individual point of view it is not a case of his right hand paying his left. His left hand is guaranteed payment from some collective hand. He acts on the premise that his left hand will get the money even if he decreases his economic activity, or votes taxes onto someone else, or evades taxes. So, even if the interest recipient's tax bill on account of the interest is no more than the interest he receives, and he knows it, the tax is still a burden to him. He believes that the tax is something which, if reduced, will bring only benefit to him, in view of his contractual right to the interest. Consequently, even if a government attempted to impose an extra tax on each individual (because of the interest) in direct proportion to the interest he was receiving, or in direct proportion to the claim that he was exercising as a result of the interest receipt—the tax being based, of course, on something more than just the interest itself—a problem would still exist. No doubt the social and political strains may be intensified if the interest recipients form a wealthy minority, but some of the economic effects might not be—for example, the effect of the added taxes on willingness to work. The taxpayer's economic reaction to the extra points on the income tax rate will not be altered by the knowledge that they are imposed simply to make him give up no more than what he is getting from his interest. Such knowledge may make him more willing to vote the taxes,

in order to avoid a rising price level or direct controls, but his economic reactions to the tax, once it is voted, are made on the assumption that he will continue to receive the interest no matter what he does.

In view of these considerations, an interest charge in the federal budget could conceivably produce something like an economic deadlock that could be resolved only by price controls and rationing, by a rise to a new high price level, or by heavy taxation of the poll-tax variety that stimulated work. The interest flow could be so large in dollars, relative to the productive capacity of the economy in terms of the existing price level, that the economic power of both the interest payments and all wages, salaries, and investment income would have to be cut drastically to make the claims fit the output. If the federal debt were widely distributed, and if the cutting were done through an ordinary type of income tax, or even by a sales tax, the resulting marginal rate of tax might be so high that each taxpayer would decide to retire on what was left of his interest income—or, if not to retire, at least to work less. The lessened output would require more cutting of disposable incomes, and so on, down, presumably, to some low production level of equilibrium characterized by poverty and idleness. There is no prospect that the federal interest burden will grow so large; and if there were, the set of circumstances that made it so would probably resolve the problem by causing or allowing a general rise in prices. Still, the possibility seems worth mentioning, if only to free ourselves of the misleading connotations of the right hand-left hand doctrine. The writers who have emphasized this doctrine have usually failed to note that the two hands, though belonging to the same body, are, as it were, controlled by separate brains and are not always on speaking terms with each other.³

A tax imposed as a percentage of the individual's capital, instead of on his income or his consumption, of course cannot avoid the problem caused by the individual taxpayer's assumption that his continued receipt of the interest does not depend on his reaction to the tax. The economic effects of a capital tax, even if it were accompanied by an equal aggregate interest payment, could hardly be zero, especially

³The other side of this analytical picture is the unsatisfactory nature of some of the attempts made by specialists in public finance to counter what they evidently felt was false doctrine. Leroy-Beaulieu, for instance, says that, if there is no public borrowing, the taxpayer who would have had to pay the interest is left correspondingly untouched, while the capitalist who would have loaned to the state will instead be drawing an income from his capital by having it invested in private enterprise. Neither party loses by the lack of the public loan and one of them has a positive benefit. (*Traité de la Science des Finances*, Huitième Edition, Tome Second, p. 228, Paris, 1912.) But if all other things are to remain unchanged, it is the putative taxpayer who must supply the money for the interest or dividends (presumably in the price of some goods or services) that the capitalist receives via private enterprise. Leroy-Beaulieu does not make his argument rest on any assumed smaller productivity of public investment.

over the long period of time that the debt would be outstanding, and in a country where capital assets in the form of Savings bonds, cash, and bank deposits are as widely distributed as they are in the United States.⁴

Suppose the total interest charge is moderate in relation to the national income; still, if the interest were counterbalanced by the addition of some extra points on the surtax scale of the individual income tax, some investment might thus be discouraged, and the willingness to work might be decreased, leading to a cut in output. In highly simplified theory it may be conceivable that the increase in income tax rates could be set at just the level where the sum total of its investment-detering effect and its consumption-cutting effect would equal the total of the consumption-increasing and investment-increasing results of the spending by the interest recipients of their money. In theory that considers important dynamic influences, and a segmented economy with a certain lack of mobility of factors, it seems not a priori evident that this exact balancing could be reached, or held for an appreciable length of time. And in practice, in view of the erratic course taken by investment—to say nothing of the gaps in quantitative knowledge on the relation of consumer spending to consumer income—economists are not yet able to offer the legislator and the administrator computations showing how much taxation of a given kind will counterbalance, in the sense used above, the given amount of interest. The legislator and administrator, lacking such computations, will probably fall back on the one-to-one ratio when considering the interest problem as an isolated factor. By doing so, they do not of course avoid the danger of impeding or stimulating investment or consumption more than they want to. The bigger the interest charge, the worse the consequences of a given mistake in judgment.

Tendency of the Interest Problem to Resolve Itself Into Another Problem. Insofar as wartime borrowing is based on a determination to pay very low interest rates, the problem of sharing the community's postwar resources tends to be worked out by cutting the real value of all money claims through a rise in prices. Very low interest rates imply heavy borrowing at the banks. (The view taken here is that at 5 per cent, for example, a wartime government can get much more money from sources outside the banking system than it can at 1 per cent, although the difference may reflect chiefly wartime dishoarding rather than a change in wartime spending.) The borrowing from the banks

⁴For a different view, cf. M. Kalecki, "The Burden of the National Debt," *Bulletin*, Vol. 5, No. 5, Institute of Statistics, Oxford, April 3, 1943. Experience indicates that it would be difficult to administer, with reasonable success, a continuing capital tax (tax on net worth of individuals), but all phases of such a tax, theoretical and practical, are much in need of careful re-examination. Little research has been devoted to this subject in recent years.

may be postponed until after the war if compulsory loans are used during the war, but are paid off after the war by voluntary loans at very low rates. The large volume of new money created during or after the war by selling government bonds to the banks tends to allow, if not to produce, a postwar level of prices somewhat higher than would exist if the borrowing had been only of already existing money (even if it were money that would otherwise have been held idle during the war because of direct controls on spending). No proportionate or other fixed relation between the amount of money and the price level is implied in this statement, merely a direct relation, or tendency, of unspecified degree. And of course the extent to which private holdings of government bonds could be easily converted into money in the postwar period has a bearing on the comparison.⁵ In general, though, it appears that the federal postwar interest problem, under the present pattern of war finance, tends to be less than it might be otherwise for two reasons: the dollar amount of interest will be low because the rates are low; and the real claim on resources that can be exercised by the interest recipients will be still lower because of the fall in the value of the dollar traceable, directly or indirectly, to, or made possible by, the creation of large amounts of new money. Even if the cost of living rises no more than its present officially indicated 25 per cent above the level of July, 1940, a purchaser of the $2\frac{1}{4}$ per cent Treasury bond issued in July of that year will be receiving only 1.8 per cent in real terms as interest on his original investment.⁶ An investor who

⁵ If the government pays, say, 5% on a long-term bond to obtain the use of some already existing money that, at any lower interest rate, would have remained idle until the end of the war, the creditor enters the postwar period holding a government bond instead of the currency or bank deposit he would be holding if the government had not borrowed his money and had instead obtained its funds through the creation of new money by the banking system. In some analyses, this difference in type of holding is regarded as unimportant because of the ease with which government bonds may currently be converted into cash (cf. Mark Mitnitzky, "Some Monetary Aspects of Government Borrowing," *American Economic Review*, March, 1943, p. 29). The view taken in the present analysis, however, is that the existence of high-yielding long-term government bonds among their assets in place of currency or bank deposits will probably exert some influence on the individuals' (if not on the corporations') postwar decisions to spend, whatever their thoughts may have been when they bought the bonds (cf. J. R. Hicks, "Saving and the Rate of Interest in War-Time," *Manchester School*, April, 1941, pp. 21-27). Moreover, the postwar government can make it impossible for any substantial number of such bonds to be turned into cash at par value; i.e., without foregoing a still larger interest return. It can do so by restricting credit; e.g., raising reserve requirements. The resulting decline in bond prices would no doubt induce some liquidation by those who had borrowed heavily to buy and by those who hoped to outguess the market, but it seems likely that most of these high-coupon long-term bonds would be converted into cash more slowly because of the credit restrictions. And if the bonds were of limited marketability—for instance could not be bought by commercial banks (e.g., the $2\frac{1}{2}$ % Treasury bonds of 1964-69, up to September 15, 1953) or pledged as collateral for loans from the banks—they would differ still more from cash. Consequently, to the extent that individuals come out of the war holding government bonds, the postwar authorities will have a somewhat greater opportunity (because of the greater chance of effective restriction of credit) to forestall or check inflationary postwar spending than if the individuals held cash.

⁶ That is, at the rate of 1.8% forever, or, alternatively, at a negative real rate for the period from purchase to maturity.

put \$75 into a ten-year Savings bond in 1940 will get eighty of these 1940 dollars when he redeems his bond in 1950, if prices remain unchanged from now on. This is real interest for the ten-year period at an annual rate of 0.6 per cent, compounded annually. If prices rise by more than $33\frac{1}{3}$ per cent from the level prevailing at the time of purchase, the Savings bond owner (series A to E) will receive a negative rate of real interest for the period. To put it another way, the Savings bond owner (series A to E) will receive a negative rate of real interest, upon holding to maturity, if the price level rises throughout the ten years at an average monthly rate of more than $28/100$ of 1 percentage point (the price level in the year of purchase being represented by 100).

History affords striking examples, on the other hand, of interest paid in money more valuable than that which was loaned to the government. The minority report of the British *Report of the Committee on National Debt and Taxation* in 1927 (Colwyn Committee) estimates that "over two-thirds of the post-war debt was raised when the value of money was lower than at 31st March, 1925."⁷ Interest on the World War borrowings of the United States appears to have been paid, in general, in dollars more valuable than those loaned. The data on prices during and after the Civil War suggest a similar result for at least part of the debt.⁸ In the hundred years following the Napoleonic Wars, holders of British bonds bettered their position in terms of the purchasing power of the interest they received.⁹ The war loan policies of the United States and Great Britain in the last conflict did involve higher interest rates, however, than those being offered at present.¹⁰ No general statement can be made, from experience, that there is a tendency of a war-loan interest charge to work itself out into another problem; but the current pattern of war finance is different enough from those of the past to make this negative statement of limited value.

An exception to the statement that the postwar interest payments give the recipients a claim on the community's postwar output without increasing the output¹¹ is the familiar instance of the banking system. A considerable part of the postwar federal interest payments to

⁷ Cmd. 2800, p. 366.

⁸ See indexes in U. S. Department of Labor, Bureau of Labor Statistics, *Handbook of Labor Statistics* (1941 edition), pp. 705, 715.

⁹ Cmd. 2800, p. 236.

¹⁰ The real burden on those who contributed, net, to the interest transfer was of course greatly lightened by the large increase in number of people of working age and the increase in productivity per capita. The latter item, but not the former (beyond a limited extent), is relevant today in considering the years ahead.

¹¹ In computations of national income (goods and services produced for sale on the market) it is customary to omit central government interest in Great Britain but to include it in the United States. This difference in viewpoint illustrates the difficulty of deciding to what extent government interest is or is not in fact a payment for increased output.

the commercial banks will be in exchange for current output in the form of banking services to the public. This is to say, if the federal government had borrowed little or nothing from the commercial banks during the war (relying more on taxation and the borrowing of already existing money), at least some of the banking service we may now expect in the postwar period would not be available, unless service charges were expanded or interest rates on postwar business loans were raised. Part of the interest payment, as representing a claim on resources, is therefore offset by the creation of services that would not be available were it not for the interest payment or some other charge. The taxpayer, instead of paying taxes to counterbalance the claim on the community's resources gained by the bank's shareholders through the interest payment, would have had to pay perhaps about the same amount to the bank in service charges or in higher rates on private borrowings. There remains a substantial economic difference, however. An individual may react to taxation by diminishing his own volume of work, or taking fewer risks, but he will not react in any such manner to a service charge imposed by banks. When he pays the service charge he gets something of value directly in exchange; moreover, he does not have to use his money this way. Consequently the last increment of his work is not made any the less valuable to him by the existence of banking services obtainable upon paying a service charge—rather, the contrary. Nor is it likely that the higher bank charges on private loans would reduce effort directly, though they might reduce somewhat the taking of risks or even the volume of virtually riskless investment.¹²

II. *Current Interest Flow*

Part II of this paper estimates how much of the federal interest charge (as of September 30, 1943) is going to each of the several types of recipient—Federal Reserve banks, commercial banks, holders of discount Savings bonds, and so on—and estimates also how much of the interest flow in each case is being recouped under existing federal taxes. The aim is to ascertain how much of the interest flow is of current economic significance in the sense that it is currently and immediately available for spending or saving. Some of the segments of interest flow are subtracted in their entirety because of the nature of the recipient, or because the interest is accruing instead of being paid out. Of the other segments, present taxes take an appreciable part. The remainder

¹² For a comprehensive analysis of the economic aspects of a government interest charge, see A. C. Pigou, *A Study in Public Finance*, 2nd edition, Part III. See also B. U. Ratchford, "The Burden of a Domestic Debt," *American Economic Review*, September, 1942, pp. 451-467; and Catherine G. Ruggles, "Social and Economic Implications of the National Debt," *Billions for Defense* (Annals, American Academy of Political and Social Science), March, 1941, pp. 199-206.

is defined to be of current economic significance. It would be interesting to go further, and speculate on how much of this remainder is being saved, not spent; but this kind of analysis is more complex than might at first appear. To mean much, it must set up some alternative fiscal policy that would not entail the flow of interest in question, and the significant item would then be the saving or spending that would occur under this policy compared to that which occurs under the present policy. Collateral as well as direct effects of the difference in policy become relevant. Aside from a few incidental remarks here and there this more ambitious attempt has not been made in the present paper. The difficulties that would be involved in it are touched upon again in the concluding section.

The possible volume of spending that might result from the interest payments is of course overshadowed by the amount that might be supported by a widespread cashing in, or sale on the market, of federal obligations, or by a drawing down of deposits or currency holdings. Still, the entire problem must be studied piece by piece, and the present paper is restricted to the interest element. The implicit question in the background of all the data it presents is: in what respects would the postwar situation be different if the government had adopted—or did henceforth adopt—a fiscal policy involving the payment of less—or more—interest?

A. To Federal Reserve Banks. An estimated 69 million dollars a year is being paid to the Federal Reserve banks as interest on their 8.9 billion dollars holdings of federal obligations.¹³ This is not much more than the 51 million dollars reported by the Reserve banks as "current earnings, U.S. government securities" for calendar 1942, and the 40 millions reported a year earlier, when the holdings were much lower. The expansion in the Reserve banks' holdings of federal obligations since December 31, 1941, has come entirely in the holdings of certificates of indebtedness and Treasury bills.¹⁴

Part, if not all, of the interest charge that flows to the Federal Reserve banks can be considered to be without economic effect, for reasons advanced in Part III below. The remainder is probably below 50 million dollars and hence not significant for the present computations, which are in terms of tenths of billions of dollars.

B. To Commercial Banks. Slightly less than one billion dollars a year in interest is now being paid to the commercial banks on their 57.9 billion dollar holdings of federal obligations.¹⁵ They are return-

¹³ \$5.3 billion were in bills, presumably paying $\frac{3}{8}$ of 1%, and \$1.3 billion in certificates of indebtedness, which pay $\frac{7}{8}$ of 1%. The \$1.5 billion in Treasury bonds probably average about 2%, and the \$0.7 billion in notes about 1%.

¹⁴ Data on holdings and earnings are from *Federal Reserve Bulletin*.

¹⁵ The *Federal Reserve Bulletin* (December, 1943, p. 1178) estimate of \$59.2 billion is

ing somewhat less than 300 millions of it to the federal government in income and excess profits taxes, leaving a net interest payment of 700 million dollars.¹⁶

Only a fraction of the 700 million dollars exerts an appreciable economic effect, in the sense of comparing the situation as it stands with what it would be like if the interest were not being paid because the money had been raised by taxes instead of by sale of bonds to the commercial banks. To analyze this problem, involving as it does the question "what would have happened if," would require the construction of at least two alternative patterns of war finance, with fairly definite specifications. The nature of this task is explored in a subsequent section of this paper. In passing, however, it may be surmised that an appreciable part of the 700 million dollars is being set aside to increase earned surplus, undivided profits, or reserves of the banks, instead of being paid out to stockholders or serving to cover wages or other expenses. Insofar as it is so set aside, it has no appreciable immediate economic effect.¹⁷

presumably a more nearly accurate estimate for the total, after subtracting about \$0.5 billion of excess of book value over the par-value measure used in this paper (I am indebted to Dr. G. L. Bach for this information), but the estimates of breakdown between different issues necessary for present purposes seemed to make it desirable to use the total \$57.9 billion. Similar slight differences may be observed in the data on holdings by mutual savings banks, insurance companies, and "all other investors." The \$57.9 billion estimate is obtained by increasing the \$55.0 billion total shown in Appendix A (I) by 5.3% to allow for holdings not reported in the *Treasury Bulletin* survey of ownership. A slight double-counting, negligible in the present computations to the nearest tenth of a billion, occurs because in the section below on Savings bonds the commercial banks' holdings (about \$200 million) are not excluded.

"At present, about \$500 million of the current interest paid to commercial banks is taxable under both corporation normal tax and corporation surtax.

If all of it goes to banks with a total net income large enough to make them liable to the tax at a 40% rate, about \$200 million of the interest returns to the federal government as tax. Somewhat more is paid by some banks, owing to the excess profits tax, and somewhat less is paid by some of the others, owing to the lower rate on small corporate net incomes or to the lack of net taxable income. It appears that very little excess profits tax is being paid by banks. On the whole, the net result might be estimated at \$200 million federal income and excess profits tax.

Another \$450 million of current interest is subject only to the surtax and excess profits tax. If all this is taxable at the top surtax rate of 16% (with no change, on balance, resulting from excess profits tax and lower surtax rates on small net incomes), about \$70 million goes back to the federal government.

Another \$6 million is wholly exempt from federal taxes.

In summary, about \$270 million of the \$960 million now being paid to commercial banks is reverting to the federal government in income and excess profits taxes, leaving a net interest payment of about \$700 million.

"When the federal government pays interest to a commercial bank, from a deposit in the same or another commercial bank, only the liabilities of the commercial banking system change: government deposit is changed to surplus or undivided profits; the excess reserves of the commercial banking system are not changed if the payment is made from a "war loan account" (otherwise they are increased); and there is a destruction of demand deposits. If the payment is from a deposit with a Federal Reserve bank, the Reserve bank's liabilities shift (from government deposit to member bank reserve) and the assets and liabilities (undivided profits or earned surplus) and excess reserves of the member-bank system increase; there is no destruction of demand deposits in the member-bank system.

Of the total 162 billion dollars of federal securities outstanding September 30, 1943, the analysis thus far has accounted for 67 billions. The net interest on that 67 billions that is available to influence economic action is, as we have seen, 700 million dollars.

C. To Holders of Savings Bonds, Series A-F. Savings bonds of series A to F are discount bonds. They pay no interest until presented for redemption. They pose a special problem in any analysis of the economic effects of federal debt interest.

There were 18.7 billion dollars of these bonds outstanding on September 30, 1943, computed at current redemption values. Almost all of this—17.3 billions—consisted of the series E and analogous earlier issues A-D. These series A to E yield 2.9 per cent if held to maturity (ten years). The rest, series F, yields 2.53 per cent if held to maturity (twelve years). Hence the average annual interest rate on series A-F was running at about 500 million dollars a year at the end of last September. However, the interest accrues on these bonds at a much smaller rate during the early years of their life. Most of them are still in the early years; so the actual current accrual of interest is only about 200 million dollars a year.¹⁸

The accrual, however, has no current economic effect, unless the bondholder claims redemption. A minor exception to this statement occurs if the holder elects to include in his taxable income for the current year the current accrual. It seems unlikely, however, that many bondholders are doing this; most of them are presumably waiting, intentionally or unknowingly, to include, in their income of the year of redemption, the interest accrual over the entire period of holding. Another minor exception, almost surely a negligible one, concerns the influence on the bondholder's actions that may be exerted by his knowledge that interest is accruing and hence his net worth position is steadily, if slowly, growing stronger.

These bonds are redeemable at any time sixty days after issue (six months after issue for series F) at the option of the bondholder. During the period April-October, 1943, for example, monthly redemptions averaged about $\frac{3}{4}$ of 1 per cent of the amount outstanding (computed at current redemption values).¹⁹ The federal government is therefore

Cf. the observation by Professor Whittlesey, incidental to his analysis of the effects of repayment of bank-held government bonds (*American Economic Review*, September, 1943, p. 604). The chief implication is of course valid, viz., that such interest payments do not burden taxpayers without (immediate, observable) corresponding gain to others, in contrast to repayment of bank-held debt.

¹⁸ If the sum of the "accrual of redemption values" for the four months June-September, 1943, is multiplied by 3, the result is \$193 million.

¹⁹ For April, 1943-October, 1943, inclusive, the rates for series A-F were in %: 0.67, 0.62, 0.83, 0.77, 0.84, 0.78, and 0.67 respectively. Series A-D, issued from March 1, 1935, to April 30, 1941, have been redeemed steadily at 0.2% a month in recent months, or 2.4% a year.

paying out annually, to certain of the series A-F bondholders, an amount equal to about 9 per cent of the outstanding bonds of those series, or about 1.7 billions a year.

In a study of interest, however, the redemptions that have occurred thus far are of little importance. Most of the redemptions appear to be of bonds bought only a few months or perhaps a year or so before; consequently the amounts paid out upon redemption represent almost entirely a return of principal. Evidently most of the redemptions up to the present have represented money that flows into the Treasury and out again within a short time. Of the 1.7 billion or so dollars that is being paid out annually upon redemption, less than 10 millions represents interest accrued.²⁰ The income tax effect of redemptions is therefore minute, especially since some of the interest on redeemed bonds is almost surely being received by individuals with no surtax net income or has already been reported as taxable.

*D. To Holders of Savings Bonds, Series G.*²¹ Series G Savings bonds pay $2\frac{1}{2}$ per cent interest currently. On September 30, 1943, there was outstanding 5.8 billion dollars par value, indicating a current annual rate of interest payment of 145 millions. Forty-two per cent of the sales through September 30 have been in \$10,000 denomination bonds, 20 per cent in the \$5,000 denomination, and 29 per cent in the \$1,000 denomination. The series G bonds are evidently held largely by high-income groups and by trusts and estates. Some, however, are held by business corporations and by institutions that are exempt from tax. As a very rough guess an average marginal wartime tax rate of 40 per cent may be applicable to this interest. This assumption leaves only 87 million dollars annual interest available to produce an economic effect.

The analysis up to this point has accounted for 91 billion dollars out of the 162 billions of federal securities outstanding, and has found a current annual interest charge available to influence economic action of only 0.8 billions.

E. To Insurance Companies. The 200 or so life insurance companies reporting monthly to the Treasury²² held, on September 30, 1943, 12.1 billion dollars of federal obligations,²² of which 11.5 billions was in Treasury bonds, most of this latter amount being in $2\frac{1}{2}$ per cent tax-

²⁰ *Treasury Bulletin*, e.g., October, 1943, p. 42. The first series A made its appearance in March, 1935, so that all redemptions up to date have been redemptions in advance—most of them well in advance—of maturity. Series E bonds were first put on sale in May, 1941; consequently, there has been a chance for only a negligible interest accrual to show up in the cumulative redemptions of three-quarters of a billion to the end of fiscal 1943, or in the additional half-billion that has been redeemed in the fiscal year 1944 through October, 1943.

²¹ Data are from *Treasury Bulletin*.

²² This figure attributes entirely to life insurance companies the \$171 million of Savings bonds and Treasury Savings notes held by "insurance companies" in general.

able bonds with call dates of 1952 or later. The reporting companies apparently account for 95 per cent of total federal holdings of all life insurance companies. For a rough estimate of the current annual rate of federal interest being paid to life insurance companies, 2.5 per cent of 12.7 billions (105 per cent of 12.1 billions) is adequate, or 300 million dollars. Even under recent changes in federal tax law designed to make the income tax effective for insurance companies, it may be doubted that they are paying enough in income tax to make a significant difference in that interest figure for the purposes of the present approximate computations. The whole 0.3 billion dollars may be added, therefore, giving a total, so far, of 1.1 billions current annual federal interest charge available to influence economic action. To what extent the 300 million dollars is actually influencing current economic action is another question. To answer it, some assumptions would have to be made concerning what the life insurance companies would have been doing currently if the government had followed a certain specified war finance policy that did not involve the sale of bonds to those companies.

The 550 or so of fire, casualty, and marine insurance companies reporting monthly show, as of September 30, 1943, holdings of only 2.0 billion dollars of federal obligations, half of it being in partially exempt Treasury bonds yielding from 2 per cent to $4\frac{1}{4}$ per cent. Perhaps another 0.05 billion can be added for these companies, to the total of economically significant interest payment.

F. To Mutual Savings Banks. The 490 or so reporting mutual savings banks held on September 30, 1943, 5.9 billion dollars of federal obligations. Almost all of it—5.4 billions—was in Treasury bonds, about half of the latter amount (2.6 billions) in $2\frac{1}{2}$ per cent taxable bonds callable in 1952 or later, and most of the rest (1.7 billions) in 2 per cent taxable bonds callable in 1948 or later, with some holdings in high-coupon partially exempt bonds. An average current rate of 2.5 per cent on 6.2 billion dollars (105 per cent of 5.9 billions) may be assumed, or 155 million. None of this is taxable, since mutual savings banks are exempt under the income tax.²³ Hence another 0.2 billion dollars may be added to the economically significant interest charge, bringing it to 1.3 billions (to the nearest tenth of a billion).

G. To "All Other Investors." The "all other investors" group consists of individuals, fiduciaries, and private (that is, nongovernment) corporations other than banks and the insurance companies specified above. It excludes holders of Savings bonds, Tax notes and Saving

²³ If the interest paid to depositors by the mutual savings banks would have been less, if the federal government had followed a fiscal program that did not involve the acquisition of federal obligations by the mutual savings banks, the fact that the interest to depositors is taxable under the individual income tax would become relevant.

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notes and Adjusted Service bonds, with respect to their holdings of these issues, since they are nonmarketable, and the "all other investor" holdings refer only to public marketable interest-bearing securities. The holdings of this group, on September 30, 1943, are estimated, as a residual, at 24.4 billion dollars.²⁴ Of this, 13.7 billion dollars was in Treasury bonds (about one-third in the old, high-coupon partially exempt bonds and two-thirds in the recent, low-coupon fully taxable issues), 6.8 billions in certificates of indebtedness (pay $\frac{7}{8}$ of 1 per cent), 2.4 billions in Treasury notes (averaging perhaps $1\frac{1}{4}$ per cent), and 0.9 billions in Treasury bills (about $\frac{3}{8}$ of 1 per cent). The average current interest to the "all other investor group" may therefore be estimated at 1.9 per cent of 24.4 billion dollars, or 464 millions. Probably most of these holdings are in the hands of nonfinancial corporations, especially the Treasury bonds that are exempt from the normal tax, which, for corporations, rises to 24 per cent (on corporations with a normal-tax net income of more than 50,000 dollars), compared with 6 per cent for individuals. If it is assumed that corporations hold all of the certificates, notes, and bills, and half of each type of the bonds, they are receiving about 260 million dollars interest, of which 80 millions pays an average marginal corporation surtax rate of 15 per cent (the top surtax rate is 16 per cent), while the remaining 180 millions pays an average marginal combined normal and surtax rate of, say, 35 per cent (the top statutory rate is 40 per cent). If the remaining 200 million dollars, paid to individuals and fiduciaries, is taxed at an average marginal rate of 60 per cent (obviously a rough guess), the current federal income tax on the 0.5 billions of interest is 0.2 billions, leaving 0.3 billions to be added to the economically significant current interest payment, raising it to 1.6 billions.²⁵

Of the total 162 billion dollars federal debt, 137 billions has now been accounted for.

H. To Holders of Tax and Savings Notes. There were 8.9 billion dollars of Treasury notes of the Tax and Savings series outstanding September 30, 1943. Almost all (8.3 billion dollars) were of series C type (Treasury Savings notes) where the interest accrues each month

²⁴The *Treasury Bulletin*, November, 1943, p. 46, gives a total of \$28.1 billion in the column, "Held by all other investors." But "all other investors" there includes those banks and insurance companies not reported in the preceding columns. Their holdings are estimated to represent 5% of total bank and insurance company holdings. This 5% has been included in the totals given in the sections above. It is therefore excluded here. All the "all other investors" subtotals have been similarly adjusted, on the assumption that the 5% is proportionally distributed among the several types of holdings.

²⁵The excess profits tax is assumed, on the average, not to cut into this interest amount. The nature of the option given to corporations to include or exclude government bond interest in computing excess profits is indeed of a kind that probably calls for some negative entry. No such refinement has been attempted here, however.

on a graduated scale to yield about 1.07 per cent per annum if held to maturity. These notes may be redeemed for cash six months after the date of issue at the tax payment value current at the time of presentation. They are designed "for the large taxpayer . . . for the investment of idle cash reserves as well as for the accumulation of tax reserves. . . ."²⁶ In the fiscal year 1943, corporations purchased 92 per cent of the total of series C notes sold in that period. Series A yield 1.92 per cent, and series B, 0.48 per cent, but these two series are no longer on sale. A current interest charge of 90 million dollars, reduced to 58 millions after corporate taxes, may be assumed, bringing the total of the economically significant interest to 1.7 billions.

I. To the Federal Government. Federal agencies and trust funds held 4.1 billion dollars of public marketable interest-bearing securities on September 30, 1943, most of it in Treasury bonds. They also held 11.7 billion dollars of "special Federal issues," yielding various rates of interest. The chief of the special issues are those put out for the Unemployment Trust Fund, built up from the proceeds of the state pay roll taxes (4.6 billions), the Federal Old-Age and Survivors Insurance Trust Fund (4.0 billions), the Federal Government Retirement Funds (1.3 billions), and the Federal Government and the National Service Life Insurance Funds (1.0 billions).

None of the interest on any of these holdings of federal agencies and trust funds is included in the present estimate of interest payments available for economic effect. Nobody's current spending for consumption or investment, neither the government's nor that of anyone else, is smaller or greater than it would be if the amount of interest being received by these funds were smaller or greater than it is. The interest "payment" is merely an internal bookkeeping item.

The analysis has now accounted for 161 billion dollars of the 162 billions federal debt outstanding September 30, 1943, and shows the total annual interest charge available to influence economic action to be 1.7 billions. The remainder, slightly over a billion, represents chiefly that part of the debt bearing no interest. Table I recapitulates the amounts computed in the preceding sections.

No subtraction has been made on account of state and local taxes, because the amount they are taking from the interest flow is negligible for purposes of the present rough computations where amounts are evened off to the nearest tenth of a billion dollars. Individuals and fiduciaries are not taxable at all, on the interest or the capital value of their federal holdings, by either the states or the localities. Some of the state corporation income and bank taxes do in effect tax the interest on federal bonds, under the franchise tax approach, where the

²⁶ *Treasury Bulletin*, November, 1943, p. 40.

TABLE I

TOTAL ANNUAL INTEREST CHARGE, AND PORTION AVAILABLE TO INFLUENCE ECONOMIC ACTION, ON FEDERAL DEBT OUTSTANDING SEPTEMBER 30, 1943

(money figures in billions)

(discrepancies in addition result from evening off to nearest tenth of a billion)

Investor	Type of Obligation	Amount of Obligations ^a	Total Annual Interest Charge	Economically Ineffective Annual Interest Charge		Portion of Annual Interest Charge Available to Influence Economic Action
				Because of Nature of Investor, or Accrual Instead of Payment	Taken in Tax under Current Tax System	
Federal Reserve banks	Chiefly bills	\$ 8.9	\$0.1	\$0.1	—	\$0.0
Commercial banks	Various	57.9	1.0	—	\$0.3	0.7
Chiefly individuals	Savings bonds, A-F	18.7 ^b	0.2 ^c	0.2	—	0.0
Chiefly individuals and fiduciaries	Savings bonds, G	5.8	0.15	—	0.1	0.1
Life insurance companies	Chiefly bonds	12.7	0.3	—	d	0.3
Fire, casualty, marine insurance companies	Chiefly bonds	2.1	0.05	—	d	0.1
Mutual savings banks	Chiefly bonds	6.2	0.15	—	—	0.2
Individuals, corporations, fiduciaries ("all other investors")	Chiefly bonds and certificates	24.4	0.5	—	0.2	0.3
Chiefly corporations	Tax and savings notes	8.9	0.1	—	d	0.1
Federal agencies and trust funds	Marketable issues, chiefly bonds	4.1	*	all	—	0.0
Federal agencies and trust funds	Special issues	11.7	*	all	—	0.0
Total		161.4 ^f	2.8 ^g	0.7 ^h	0.6	1.7

^a Par value, unless otherwise specified.^b Computed at current redemption values.^c Current rate of accrual. Average annual rate of accrual over the full life of the bonds is about \$500 million.^d Less than \$50 million.^e Not estimated directly. See note "g" below.^f The remainder of the \$162.3 billion outstanding September 30, 1943, represents adjusted service bonds, depository bonds, matured debt on which interest has ceased, debt bearing no interest (this item alone is \$1.2 billion), and Commodity Credit Corporation nonmarketable issues. There is a final discrepancy of \$0.4 billion due presumably to roundings off to the nearest tenth of a billion.^g This item is obtained by taking from the *Treasury Bulletin*, November, 1943, p. 27, the computed annual interest charge as of September 30, 1943 (\$3,149 million) and subtracting \$300 million to reflect the difference between the treatment of interest return on the discount Savings bonds (in arriving at the \$3,149 million figure, the 2.90 and 2.53% returns are used instead of the current accrual). As a residual, the interest on the marketable issues held by federal agencies and trust funds, plus the special issues, is \$0.4 billion, since the total of the interest items given in the table above is \$2.443 billion.^h Computed partly as a residual. See note "g."

tax base is merely (in a legal sense) "measured by," not constituted of, interest on federal bonds, but the amount of tax involved is small, probably much less than 50 million dollars.²⁷

Of this 1.7 billion dollars of interest defined above as economically significant, 0.7 billions, it will be recalled, is going to the commercial banks. Part, if not all, of this may be regarded as a sort of service charge that would have to be paid to the banks somehow or other in any case, even if the war finance program did not involve the creation of

²⁷ The federal capital stock and "declared value excess profits" taxes have also been omitted because the amounts involved are negligible for purposes of the present computations. The estate tax and gift tax have been disregarded for the same reason. A heavier wartime tax program would leave individuals with a smaller total volume of assets, including government bonds, and the revenue from the estate and gift taxes would drop, but the amounts would not be significant for the present computations, at least not in wartime.

new bank credit, so long as the banks had to handle much the same quantity of bank debits. To the extent that this 0.7 billion dollars is so regarded, it falls outside the interest problem that is the scope of this paper, that is, if it really would have to be paid in some form or other regardless of the methods by which a war program of a given dollar size was financed. Exclusion of half of the entire 0.7 billion dollars, for example, would reduce to about 1.4 billions the economically significant current annual federal interest charge—economically significant from the viewpoint of the policy makers who have to decide whether or not to give a current claim on the economy's output to recipients who are not producing current goods and services in exchange for the payment.

III. Possible Postwar Interest Flow

A. Under Wartime Interest Rate Structure and a Postwar Tax Structure, with Wartime Pattern of Holdings Unchanged. To discuss the postwar interest flow in quantitative terms, some assumption must be made concerning the size and composition of the debt at the end of the war. It is here assumed, simply as one of many reasonable projections of current trends, and not as an outright prediction, that the borrowing requirements for each of the fiscal years 1944, 1945, and 1946 will be the same as forecast for fiscal 1944 in the budget summation statement issued in July, 1943.²⁸ During these war years, current trends with respect to the amount of each type of obligation issued are assumed to continue, and the current interest rate structure is assumed unchanged.²⁹

Total Interest Charge. The computations are first made on the assumptions that this same interest rate structure carries over indefinitely into the postwar period, and that there is no substantial shifting of the debt among the several types of holders or types of obligations.

These assumptions call for an increase in the federal debt by 198 billion dollars, from 141 billions at the end of fiscal 1943 to 339 billion dollars at the end of fiscal 1946. In each of these three years Savings bonds outstanding (current redemption value) are assumed to increase 14 billions, commercial bank holdings 20 billions, and Federal Reserve bank holdings 6 billions. Insurance companies are assumed to increase their federal bond holdings by 3 billion dollars a year. The "all other investor" group increases its holdings of Treasury bonds by 8 billion

²⁸ The budget message of January, 1944, indicates a somewhat smaller borrowing requirement for fiscal 1944 and fiscal 1945. The computations in this paper were made before these new estimates were available.

²⁹ No assumption is implied concerning the price level except that there occurs no rise so swift as to disorganize the bond market and force a rise in interest rates before the end of the war.

dollars a year, and of certificates of indebtedness by 7 billions a year. The various items are recapitulated in Tables II and III. The result (Table III) is a total federal annual interest charge, on the debt outstanding at the end of fiscal 1946, of 5.9 billion dollars, rising, however, as the Savings bonds move into the later years of their life, to a peak of 7.3 billions. A rough average would be 6.6 billion dollars. The details of the computation of the interest charge are given in Appendix B. Interest on the discount type of Savings bonds is computed on a year-to-year basis; the rate during the seventh year, for example, is 4.76 per cent, since the redemption value grows from \$42 to \$44 in that period, and \$2 is 4.76 per cent of \$42. The rate during the sixth year, on the other hand, is only 2.44 per cent. Hence the annual interest charge on the Savings bonds assumed outstanding June 30, 1946, plus similar bonds assumed issued to refund maturity values of maturing Savings bonds, rises gradually from 1.3 billion dollars in 1947 to 2.7 billions in 1953 and declines to 1.7 billions in 1956.

Economically Significant Interest Charge. As a first step in computing the economically significant portion of the interest, the total interest is reduced by the amount being paid to the Federal Reserve banks. Any increase in interest payments above those of September 30, 1943 (and some part of those payments too) may be considered without economic effect. The interest payment disappears from the active-money system, to become locked up indefinitely as surplus of the Federal Reserve banks.³⁰ This surplus is available to the Reserve banks for meeting losses, deficits, and unearned dividends up to the maximum of 6 per cent, cumulative, allowed by law. It cannot be otherwise distributed to the stockholding member banks. And if the Reserve banks should be liquidated, any surplus would be paid to the United States.

Current earnings of the Reserve banks are running somewhat above expenses plus the 6 per cent dividend maximum, and there are no unpaid accumulated dividends. In calendar 1942 each of the twelve Reserve banks showed net earnings larger than dividends paid. It is almost correct, therefore, to say that, barring a substantial rise in the Federal Reserve banks' expenses, any further increase in annual interest payments to the Federal Reserve banks will be without economic effect. In an economic sense, the government is borrowing at a zero interest rate on any increase in debt that it places with the Federal Reserve banks, whatever the stated rate of interest may be. To put it another way, no economic effects would result from the government's borrowing from the Federal Reserve banks to pay interest to the Federal Reserve banks.

³⁰ The Federal Reserve banks are exempt from federal taxation. Hence none of the interest paid to the banks by the government is recouped through the income tax.

TABLE II

ANNUAL BORROWING PATTERN, FISCAL 1942-FISCAL 1946 INCLUSIVE UNDER PROJECTION OF PRESENT WAR-FINANCE PATTERN THROUGH FISCAL 1946
(in billions of dollars)^a

	Treasury Bonds		Certificates of Indebtedness Purchased by "All Other Investors" ^b		Public Marketable Interest-Bearing Federal Obligations		Special Issues	Treasury Notes (Tax and Savings Series) ^d	Federal Obligations of All Types, Purchased by Mutual Savings Banks	Balancing Item: All Other Purchases of Federal Obligations ^e	Total for the Year
	Savings Bonds	"All Other Investors" ^b	Insurance Companies	Other Investors ^b	Federal Reserve Banks	Commercial Banks					
Fiscal 1942	6	1						3	1	1	22
Fiscal 1943	11	4								3	64
Fiscal 1944	14	8								2	66
Fiscal 1945											
Fiscal 1946											
Total for five years	59	28 ^a								10	284

^a Apparent discrepancies of 1 in addition or subtraction.
^b After excluding the part of "All Other Investors" reported as such.

^c Less than \$500,000,000.

^d From *Treasury Bulletin*, November, 1943.

^e Obtained as a balancing item by subtracting

TOTAL FEDERAL DEBT, BY TYPES OF O

	Treasury	
	Savings Bonds	"All Other Investors"
Outstanding June 30, 1941 ^b	4	7
Assumed Increase Fiscal Year 1942-1946 Inclusive	59	28
Assumed Amount Outstanding June 30, 1946	63	35
Estimated Annual Interest Charge as of June 30, 1946 ^c	Between 1.3 (fiscal 1947) and 2.7 (fiscal 1953)	Fully taxable 0.7

^a Includes all holders except commercial banks, and trust funds on note, August, 1941, and

^b *Treasury Bulletin*, August, 1941, and

^c *Treasury Bulletin*, August, 1941, and

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OF WAR FINANCE, WITH

Balancing Item: All Other Holdings of Federal Obligations	Total Federal Debt, Including Guaranteed Obligations	
6	55	
10	284	
16	339	
0.3	Between 5.9 (fiscal 1947) and 7.3 (fiscal 1953)	

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There is, to be sure, a sterilization (if not outright destruction) of bank-deposit money when the government pays interest to a Federal Reserve bank. The deposit money is thereby transferred to Reserve bank surplus. The statement just made—that any further increase in annual interest payments to the Federal Reserve banks would be without economic effect—means simply that the result is the same as if the

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* One dollar of interest paid to a Federal Reserve bank from a government account decreases the member-bank system's total deposits, and hence its liabilities, by one dollar. Its total of assets is decreased one dollar by a decrease in its deposits (its reserves) with the Federal Reserve bank. Excess reserves of the member-bank system decrease by an equal amount, if attention is concentrated simply on a transfer from a federal government war-loan account, since no reserves are required against such accounts. Even when the ordinary reserves are required, the excess reserves decrease somewhat. The Reserve bank's balance sheet changes only on the liabilities side, by a shift of one dollar from the deposit account of the member bank to earned surplus of the Reserve bank. Consequently the Reserve bank's reserve ratio increases. If the government pays the interest directly out of a deposit account with the Reserve bank, the same result is reached for the Reserve bank, while the member banks are not affected.

The methods employed by the government to obtain the deposit that it uses to pay the interest do of course exert their own influences on the volume of money, reserve ratios, and so on.

TABLE II

ANNUAL BORROWING PATTERN, FISCAL 1942-FISCAL 1946 INCLUSIVE UNDER PROJECTION OF PRESENT WAR-FINANCE PATTERN THROUGH FISCAL 1946
(in billions of dollars)^a

	Treasury Bonds		Certificates of Indebtedness Purchased by "All Other Investors"	Public Marketable Interest-Bearing Federal Obligations		Special Issues	Treasury Notes (Tax and Savings Series) ^d	Federal Obligations of All Types Purchased by Mutual Savings Banks	Balancing Item: All Other Purchases of Federal Obligations ^e	Total for the Year
	"All Other Investors"	Insurance Companies		Federal Reserve Banks	Commercial Banks					
Fiscal 1942	1	2	1	6	6	2	3	1	1	22
Fiscal 1943	4	4	4	5	25	3	4	1	3	64
Fiscal 1944	8	3	7	6	20	3	0	3	2	66
Fiscal 1945										
Fiscal 1946										
Total for five years	28 ^a	15	26	23	91	14	7	11	10	284

^a Apparent discrepancies of 1 in addition or subtraction result from evening off to nearest billion.

^b After excluding the part of "All Other Investors," as reported in the *Treasury Bulletin*, that may be estimated to represent the 5 per cent of bank and insurance company holdings not reported as such.

^c Less than \$500,000,000.

^d From *Treasury Bulletin*, November, 1943, p. 24; assumes commercial bank holdings negligible.

^e Obtained as a balancing item by subtracting the sum of preceding columns from the "total" column.

TABLE III

TOTAL FEDERAL DEBT, BY TYPES OF OBLIGATION, ASSUMED OUTSTANDING JUNE 30, 1946, UNDER PROJECTION OF PRESENT PATTERN OF WAR FINANCE, WITH ESTIMATED ANNUAL INTEREST CHARGE AS OF THAT DATE
(in billions of dollars)

	Savings Bonds	Treasury Bonds Held by		Certificates of Indebtedness Held by "All Other Investors"	Federal Reserve Bank Holdings	Commercial Banks (Public Marketable Interest-Bearing Obligations)	Special Issues	Treasury Notes (Tax and Savings Series)	Mutual Savings Banks Holdings	Balancing Item: All Other Holdings of Federal Obligations	Total Federal Debt, Including Guaranteed Obligations
		"All Other Investors"	Insurance Companies								
Outstanding June 30, 1941 ^b	4	7	6	0	2	20	6	0	4	6	53
Assumed Increase 1942-1946 Inclusive	59	28	15	26	23	91	14	7	11	10	284
Assumed Amount Outstanding, June 30, 1946	63	35	21	26	25	111	20	7	15	16	339
Estimated Annual Interest Charge as of June 30, 1946 ^c	Between 1.3 (fiscal 1947) and 2.7 (fiscal 1953)	Fully taxable only to surtax	Subject only to surtax	Fully taxable only to surtax	0.1	1.5	0.2	0.1	0.4	0.3	Between 5.9 (fiscal 1947) and 10.3 (fiscal 1953)
		0.7	0.1	0.2	0.1	1.5	0.2	0.1	0.4	0.3	

^a Includes all holders except commercial banks, mutual savings banks, Federal Reserve banks, life insurance companies, fire, casualty and marine insurance companies, and government securities and trust funds. See also Table II.

^b From *Treasury Bulletin*, August 1941, p. 24; assumes commercial bank holdings negligible.

^c Obtained as a balancing item by subtracting the sum of preceding columns from the "total" column.

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There is, to be sure, a sterilization (if not outright destruction) of bank-deposit money when the government pays interest to a Federal Reserve bank. The deposit money is thereby transferred to Reserve bank surplus. The statement just made—that any further increase in annual interest payments to the Federal Reserve banks would be without economic effect—means simply that the result is the same as if the government did not make the payment; that is, merely held idle an amount equivalent to the interest. In both cases the bank-money does nothing. Another accompanying banking phenomenon is perhaps of some importance: payment of interest by the government to a Federal Reserve bank decreases the reserve ratio of a member bank if the government pays the interest out of a deposit it has with the member bank; and in any case it increases the reserve ratio of the Federal Reserve bank itself. But so long as bank reserves are well above the minimum needed to operate conveniently in a mechanical sense, so that the state of excess reserves is in practice merely a legal matter, the resulting changes in reserves need not have any economic effects.³¹

The fact that the government is from now on borrowing at a zero interest rate whenever it increases its borrowings from the Federal Reserve banks has important implications for postwar management of the public debt. If individual and corporate holders show a strong inclination to cut their holdings of federal obligations in the postwar period, at least at present interest rates, and if the obligations they dispose of are absorbed by the Federal Reserve banks, the economic effects of the federal government's total interest charge will correspondingly disappear. Reference here is strictly to the economic effects of the outpayment of the interest. The means used to obtain the funds to pay the interest, whether to the Federal Reserve banks or others, can be analyzed separately. The point here is that a strong movement out of federal obligations after the war, with the Reserve banks absorbing all offerings, would tend to remove the interest payment as an economic factor.

³¹ One dollar of interest paid to a Federal Reserve bank from a government deposit in the member-bank system decreases the member-bank system's total deposits, and hence its liabilities, by one dollar. Its total of assets is decreased one dollar by a decrease in its deposits (its reserves) with the Federal Reserve bank. Excess reserves of the member-bank system decrease by an equal amount, if attention is concentrated simply on a transfer from a federal government war-loan account, since no reserves are required against such accounts. Even when the ordinary reserves are required, the excess reserves decrease somewhat. The Reserve bank's balance sheet changes only on the liabilities side, by a shift of one dollar from the deposit account of the member bank to earned surplus of the Reserve bank. Consequently the Reserve bank's reserve ratio increases. If the government pays the interest directly out of a deposit account with the Reserve bank, the same result is reached for the Reserve bank, while the member banks are not affected.

The methods employed by the government to obtain the deposit that it uses to pay the interest do of course exert their own influences on the volume of money, reserve ratios, and so on.

The interest paid to the government funds on the "special issues," is subtracted in arriving at the economically significant interest for reasons given in Part II above.

Also for reasons advanced in Part II above, the interest on Savings bonds is taken to be economically significant, not as it accrues, but as it is paid out. The year-to-year accrual reckoning was used in Table III above for the discount bonds because, when consideration is given below to possible shifts in holdings, with or without changes in the interest rate structure, the accrual rate is the relevant figure in estimating the ultimate results of such shifts, the answer depending in part on when the shifts are assumed to occur. But, given a certain pattern of holdings, the question then becomes, what is the economic effect of paying this interest on the discount Savings bonds (instead of interest at some other rate), and the significant amounts are those paid out to the bondholders. To be sure, the fact that the holders can redeem the bonds prior to maturity must not be forgotten, but the inquiry at this point is directed to the economic effects to be expected if they do hold virtually all their Savings bonds to maturity. Likewise, the fact that the bondholder probably will not distinguish between interest and principal upon repayment is not important for this point; had the interest been greater or smaller his power to consume or invest, upon maturity, would have been greater or smaller.

The accrued interest coming due upon maturity of the discount Savings bonds, plus the 0.4 billion dollars of interest paid out annually during and after 1946 on the series G bonds, is computed in Appendix B. It starts at 0.6 billion dollars in fiscal 1947, and rises slowly (with one dip) to 0.7 billions in 1951. It then increases sharply to 1.7 billions in 1952, 3.2 billions in 1953, and 4.1 billions in 1954 and succeeding years, as the big wartime sales are redeemed at maturity.

A substantial proportion of this accumulated interest, paid at maturity, would be taken in federal individual income tax, even after allowing for the facts that, first, some of this interest will be going to individuals whose income is too small to be taxable at all, especially under a postwar personal income tax that may carry slightly higher personal exemptions and credit for dependents, and, second, some of it will have been entered for tax on the accrual basis in previous years' returns. The income tax to be assumed is the tax as it might be in the federal budget before including the interest charge, since what we seek ultimately in these computations is the added tax necessitated by the interest. The average marginal rate applying to the interest in the hands of taxable recipients seems likely to be no lower than 20 per cent, and no higher than 50 per cent, insofar as any guess at all may be hazarded for so distant a future. If 30 per cent is taken as a rough

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estimate and if seven-eighths of the interest is assumed to go to taxable individuals, the remaining interest—the economically significant interest—would be roughly three-quarters of the amounts mentioned above, or (computed from data in millions, but rounded to tenths of billions):

1947	\$0.4
1948	0.4
1949	0.5
1950	0.6
1951	0.6
1952	1.3
1953	2.4
1954	3.0
1955	3.0
1956	3.0

Federal corporate income taxes will also recoup an appreciable part of the postwar interest. It may be useful to consider how much of the interest would be recouped by an assumed federal corporate tax system in which the excess profits tax and the capital stock and declared-value excess profits tax had been repealed, and the corporation normal tax and corporation surtax rate schedules were each half of what they now are, so that the normal tax would range from $7\frac{1}{2}$ per cent on corporate income up to \$5,000 to 12 per cent on corporations with normal-tax net income of over \$50,000, while the corporation surtax would range from 5 per cent on corporation surtax net income up to \$25,000 to 8 per cent on corporations with more than \$50,000. The maximum combined corporate rate under this assumption is 20 per cent. If the interest on the commercial bank holdings fell almost entirely in the income group above \$50,000, the 1.5 billion dollars fully taxable interest would yield 0.3 billions in taxes and the 0.2 billions of partially taxable interest would yield an amount negligible for purposes of the present computations.

Unless the taxation of insurance companies is revised, it is doubtful whether the tax on their 0.5 billions of interest would be other than negligible for purposes of this analysis. However, an item of 0.1 billion dollars may be set down tentatively.

The interest received by mutual savings banks will not be taxable at all so long as the present exemption of these banks continues.

The Treasury notes of the Tax and Savings series and the balancing item in Table III of "all other holdings" probably reflect corporate holdings in the main, and an average rate of nearly 20 per cent may be assumed to apply, yielding 0.1 billion dollars in revenue.

The certificates of indebtedness and the Treasury bonds held by

"all other investors" (61 billion dollars) may be assumed to be distributed about two-thirds among corporations and one-third among individuals, so that 0.7 billions of interest goes to corporations, which is taxed to yield somewhat over 0.1 billions.

The only items remaining unaccounted for are the 0.3 billion dollars to individuals holding certificates of indebtedness and Treasury bonds. An average marginal rate of 40 per cent would produce 0.1 billions in tax.

The result of these assumptions and computations, recapitulated in Table IV, is an annual interest charge on the federal debt of 339

TABLE IV
TOTAL ANNUAL INTEREST CHARGE, AND PORTION AVAILABLE TO INFLUENCE ECONOMIC ACTION, ON FEDERAL DEBT ASSUMED OUTSTANDING JUNE 30, 1946
(money figures in billions)

Investor	Type of Obligation (from Table III)	Amount of Obligations ^a	Total Annual Interest Charge	Economically Ineffective Annual Interest Charge		Portion of Annual Interest Charge Available to Influence Economic Action
				Because of Nature of Investor	Taken in Tax under Assumed Postwar Tax System	
Federal Reserve banks	Chiefly bills	\$ 25	\$ 0.1	\$0.1	—	\$ 0.0
Commercial banks	Various	111	1.7	—	\$ 0.3	1.4
Chiefly individuals	Savings bonds A-G	63 ^b	0.5-4.1 ^c	—	0.1-1.1	0.4-3.0
Insurance companies	Chiefly bonds	21	0.5	—	0.1	0.4
Mutual savings banks	Chiefly bonds	15	0.4	—	—	0.4
Individuals, corporations, fiduciaries ("all other investors")	Chiefly bonds and certificates	61	1.0	—	0.2	0.8
Chiefly corporations	Tax and savings notes, and balancing item in Table III	23	0.4	—	0.1	0.3
Federal agencies and trust funds	Special issues	20	0.5	0.5	—	0.0
Total		339	5.1-8.7	0.6	0.8-1.8	3.7-6.3

^a Par value, unless otherwise specified.

^b Computed at current redemption values.

Interest on discount bonds accrued to maturity, assuming practically all net purchases of any one year are held to maturity.

billion dollars assumed to be outstanding on June 30, 1946, of 5.1 billions to 8.7 billions,³² depending on the year. These totals are reduced, by subtracting 0.6 billion dollars going to the government itself and to the Federal Reserve banks, and by subtracting a further 0.8 billions to 1.8 billions (depending on the year) in tax taken under the assumed federal postwar tax system, to an economically significant interest charge as low as 3.7 billions (in fiscal 1948) and as high as 6.3 billions (in fiscal 1954, 1955, and 1956). The difference in these totals is due

³² The difference between these figures and the \$5.9 billion and \$7.3 billion given in a preceding part of the text reflects the different methods of computing interest on the discount Savings bonds.

to the growing size of the accumulated interest on the maturing Savings bonds.

B. Under Wartime Interest-Rate Structure and a Postwar Tax Program, but a Changed Distribution of Holdings. Even if the wartime interest-rate structure is maintained unaltered in the postwar period, the total interest charge may change appreciably, for there may develop large shifts in the proportions of the debt held in various forms.

The lowest-yielding obligations of all—the $\frac{3}{8}$ of 1 per cent bills—seem unlikely to be dislodged in large amounts. They are held chiefly by the Federal Reserve banks and, apparently, the large commercial banks. The large banks would let their bills run off if their reserves got too low because of the demands for credit creation under a business boom, but reserve requirements would probably not be maintained at levels that would invite a general exodus from Treasury bills, if the government were committed to maintaining the structure of interest rates inherited from the war. Disposal of assets necessitated by a permanent shifting of deposits away from a given community is another matter. It may be doubted, however, whether the holdings of Treasury bills by large banks that will find themselves in this kind of a postwar situation are very great; and the banks to which the deposits move would form a market to take up some of the bills.

The certificates of indebtedness, paying $\frac{7}{8}$ of 1 per cent, seem likely to be turned in on a large scale by one of the chief groups of holders—business corporations other than banks—unless postwar business runs at a low level.

For ordinary Treasury notes and for tax Savings notes (series C), both paying about 1 per cent, there is a likelihood of some decrease in postwar holdings.

The Treasury bonds with an interest rate of 2 per cent or less and a maturity of ten years or less are held chiefly by the commercial banks. Some of the smaller banks may lighten their holdings if they anticipate a loss of deposits and fear a substantial decline in market value at the same time, even though in fact (under the present assumptions) it never occurs. What the larger banks will do is a complex problem that goes far into the field of postwar management of the debt. But a reasonable possibility, at least, seems to be that the larger banks will retain their holdings, if in fact interest rates are maintained unchanged. The same remarks apply to the Treasury bonds with $2\frac{1}{4}$ and $2\frac{1}{2}$ per cent coupons maturing before 1955. The $2\frac{1}{2}$ per cent bonds maturing later, on the other hand, are held largely by insurance companies, mutual savings banks, trust funds, and wealthy individuals. These holdings are presumably fairly stable, so long as the holders believe that the structure of interest rates is to remain unchanged.

Of the 11 billion dollars high-coupon Treasury bonds (above $2\frac{1}{2}$ per cent) with call dates after June, 1946, 5 billions are being held by the commercial banks.

Series G Savings bonds are probably in the hands of firm holders, to about the same extent as the long-term $2\frac{1}{2}$ per cent bonds.

The discount Savings bonds—series A to F—are of course the great mystery. Will they be held, almost all of them, to maturity? If not, will they be turned in during the late forties when most of them will still be accruing interest at a low rate, or in the early and middle fifties when the annual interest charge will be about twice as high? The possibilities of a change in the annual current interest charge resulting from a refunding of the Savings bonds are many. On the whole, any postwar movement out of Savings bonds before maturity will probably result in a lowering of the annual interest charge if the structure of rates remains unchanged.

If, then, it is the low-rate certificates of indebtedness and the high-rate discount Savings bonds that are most likely to be turned in by present holders in large amounts in the postwar period, the probable net change in annual interest charge, under an unchanged interest rate structure, would seem to be either not large enough to be significant (if the Treasury met the shift by selling a mixture of issues) or a substantial decrease (if the Treasury met the shift by selling low-rate, short-term obligations to the Federal Reserve banks and the commercial banks).

The initiative in changing the distribution of holdings might come from the Treasury instead of the public, if the Treasury wanted to refund a large part of the short-term debt into obligations of longer term. The consequent increase in the annual interest charge could be substantial, even under an unchanged structure of interest rates. On June 30, 1946, under the assumptions above in Table III there would be outstanding about 30 billion dollars in Treasury bills (most of the Federal Reserve banks' total holdings of 25 billions, plus perhaps 10 billions in the commercial banks) and about 60 billions in certificates of indebtedness (about 20 billion dollars added to the $12\frac{1}{2}$ billions held by commercial banks September 30, 1943, plus 26 billions held by "all other investors"). If, for example, 20 billion dollars of $\frac{3}{8}$ of 1 per cent bills and 40 billions of $\frac{7}{8}$ of 1 per cent certificates were refunded into $2\frac{1}{2}$ per cent long-term Treasury bonds, the annual interest charge would rise by 1.1 billions.

*C. Under a Changed Interest-Rate Structure.*³³ If business becomes

³³ For a general discussion, see J. H. Riddle, "The Future of Interest Rates," *Bankers Magazine*, March, 1943.

so active in the postwar period that a price inflation threatens, and if the government attempts to forestall or check the inflation by restricting credit, rather than through heavy taxation or direct controls, interest rates will presumably rise. The absolute restriction of credit,³⁴ not the rise in business costs through increased interest charges, would be the instrument relied on, but the effect on the interest structure, although a by-product of the control measures, would still be important for the federal budget.

Even before price inflation seems near, long-term interest rates might rise. The country will come out of the war with a large amount of cash on hand, but some corporations and entrepreneurs will not have all they need, and much of what the others have they may not be willing to move at prevailing interest rates.

To illustrate the magnitudes involved, it may be assumed that the rate on certificates rises to 4 per cent and on Treasury bonds to 5 per cent. Bills owned by the Federal Reserve banks would presumably continue to pay only $\frac{3}{8}$ of 1 per cent, but on the open market their yield could not differ much from those of the certificates.³⁵ By the end of a year, say June 30, 1947, the annual interest charge on the assumed 60 billion dollars of certificates would have increased 1.9 billions; and on the 10 billions or so of bills not owned by the Federal Reserve System there would be an increase of about 0.4 billions, or 2.25 billions altogether on the short-term debt. Part of this increase would of course be taken in taxes, leaving perhaps 1.6 billion dollars net. The total annual interest charge of 6 billions as of June 30, 1946, assumed in Table III, would rise to 8 billions. The economically significant interest charge, estimated in Table IV above at 4 billion dollars, in fiscal 1947, would be 5 billions (to the nearest billion).

The increase in the interest rate on Treasury bonds would take effect more slowly. Only 34 billion dollars of Treasury bonds are both callable after June 30, 1946, and maturing before 1956, and a part of these bear coupon rates from $2\frac{1}{2}$ per cent to $4\frac{1}{4}$ per cent, so that, by 1956, the annual interest charge on the Treasury bonds outstanding June 30, 1946 (and on the bonds issued to refund them) would have increased by about 0.9 billions. Some holders of Savings bonds would turn them in before maturity to take advantage of the new rates on the securities not redeemable at the holder's option. Interest rates on Treasury notes would also rise. Perhaps half a billion dollars should be added for these items. Of the 1.4 billion dollars, 0.4 billions might

³⁴ Restriction of credit in this context has extensive connotations. Refusal of the Federal Reserve System to buy all federal obligations offered on the open market at prevailing prices would be "restriction of credit" in the sense used here.

³⁵ This assumes the Federal Reserve banks cease to buy bills under repurchase option.

be taken in taxes. As a rough guess, it appears that a change in the interest rate structure of the kind postulated above would, by 1956, raise the annual federal interest charge, as computed in Table IV, to 12 billion dollars, while the economically significant interest charge would be 9 billions, on a debt assumed unchanged at about 340 billions. It must be recalled, however, that most observers are not anticipating so substantial a rise in rates. On the other hand, these calculations make no allowance for a loss of confidence in the value of the dollar that might result from a substantial rise in prices; the consequent effect on the interest-rate structure could be very great indeed.

The computations made on the basis of an increase in medium-term and long-term interest rates do not assume anything explicitly about a shifting of holdings, but it is likely that a large part of the medium-term debt (ten-year bonds, for instance) would move out of the commercial banks as soon as, or before, the upward trend in interest rates became generally apparent. This comment leads to the further observation that if the Treasury does determine to maintain the interest-rate structure unchanged by absorbing all offerings through borrowing from the Federal Reserve banks, and if the commercial banks, nevertheless, do not as a whole believe that the rate structure will in fact be maintained, there can result the paradox that a pressure toward higher interest rates will lower the federal interest charge, as the 2 per cent bonds (for example) are converted into, say, $\frac{3}{8}$ of 1 per cent bills. No value judgment is here passed on the possibility; it is noted merely as an example of the ways in which the problem of the federal interest charge may tend to be resolved into another kind of problem.

D. Summary of Interest Charges. The data on annual federal interest charge that have been presented above—some of them actual but most of them hypothetical—may be summarized as follows:

As of September 30, 1943, the annual interest charge was nearly 3 billion dollars, but less than 2 billions was immediately available to influence the economic actions of the recipients ("economically significant"), as shown in Table I.

If borrowing requirements for the three fiscal years, 1944-46, total 198 billion dollars, so that the debt reaches 339 billions, the annual interest charge at the end of fiscal 1946 will be between 5 billions and 6 billions if the structure of interest rates remains unchanged. The 5 billion or 6 billion dollar interest charge of 1946 would include slightly less than 4 billions of economically significant interest. The assumption of 198 billion dollars additional borrowing is probably more than most observers consider likely, but it has been selected for present purposes, in order to bring the interest question into sharp focus, while avoiding

impossible assumptions. By assuming a smaller increment than 198 billions, these interest totals can be cut correspondingly, by a roughly proportionate cut in the increase they represent over the September 30, 1943, figures (disregarding the fractions of a fiscal year).

If the rate structure rises to a level where certificates bring 4 per cent and bonds 5 per cent, the change starting in 1946, then the annual interest charge rises to 7 billion or 8 billion dollars by 1947. The part of the interest available to influence economic action rises to 5 billions.

In the later years of the postwar period—1953 or thereabouts—the interest charge will be larger, on the same total debt, because of the way the annual interest charge on the Savings bonds grows as they approach maturity. Under an unchanged rate structure it passes 7 billion dollars (or nearly reaches 9 billions, depending on how the Savings bond accrual is computed), as shown in Tables III and IV, instead of the 5 billions to 6 billions of 1946. The economically significant part of the interest passes 6 billion dollars instead of falling short of 4 billions as in 1946. And if the interest-rate structure moves up, the later years have still another reason for showing a heavier interest charge than the earlier; it takes a while for the change in long-term rates to affect the total. The total in the middle fifties would reach 11 billion or 12 billion dollars, and the economically significant part would reach 9 billions.

IV. *The Interest Charge, Tax Rates, and the National Income*

To obtain an approximate idea of what the assumed postwar interest charge means in terms of taxation, let it be supposed that the part of the interest charge that is immediately available to influence the economic actions of the recipients ("economically 'significant'") requires an equal amount of tax revenue, obtained from an addition to the rates of the individual income tax. How many percentage points would have to be added to the individual surtax scale?

The answer depends chiefly on the volume of income payments, the distribution of income recipients according to size of income, and the personal exemptions and credit for dependents, since these are the chief determinants of the total surtax net income. Table V presents some data on these points (except the distribution) for recent years. The answer will evidently differ greatly depending on the values these variables take. Surtax net income was only 9 billion dollars in 1939 and 13 billions in 1940. In 1941 it was 24 billions. For calendar 1943 it will probably be close to 60 billions.

To raise 3.7 billion dollars on a surtax base of 9.2 billions would require an average of 40 additional percentage points all along the

surtax rate scale (or some equivalent non-uniform addition). No doubt the answer to this, in practice, as well as in theory, is that if income payments ever went as low as the 71 billion dollars of 1939, little or no attempt would be made to raise, in such a year, 3.7 billions more in tax revenue than would have been raised in such a year if there had been no interest charge. And if any attempt were made to raise the 3.7

TABLE V
RECENT VARIATIONS IN FEDERAL INDIVIDUAL INCOME SURTAX BASE

Calendar Year	Income Payments ^a (billions)	Personal Exemption and Dependent Credit			Surtax Net Income (billions)
		Married	Single	Dependent	
1939	\$ 70.8	\$2,500	\$1,000	\$400	\$ 9.2 ^b
1940	76.5	2,000	800	400	13.2 ^c
1941	92.2	1,500	750	400	23.7 ^d
1942	115.5	1,200	500	350	"
1943	141.9	1,200	500	350	"

^a *Survey of Current Business*, January, 1944, p. 17.

^b *Statistics of Income for 1939, Part I*, pp. 8-9. Net income of taxable individual and fiduciary returns, \$15.8 billion, minus personal exemptions of \$6.0 billion and credit for dependents of \$0.6 billion on such returns. The earned income credit, deductible in arriving at normal tax net income, totaled \$1.2 billion on such returns.

^c *Statistics of Income for 1940, Part I*, pp. 76-77. Net income of taxable individual and fiduciary returns, \$23.6 billion, minus personal exemptions of \$9.5 billion and credit for dependents of \$0.9 billion on such returns. The earned income credit on such returns totaled \$1.9 billion.

^d Preliminary estimates, *Treasury Press Release, March 25, 1943, No. 35-82*. Includes estimates computed from 1040-A returns. Net income of taxable returns, \$46.0 billion, minus personal exemptions of \$19.9 billion and credit for dependents of \$2.5 billion on such returns. The earned income credit on such returns totaled \$4.0 billion.

* Data not available as this is written.

billion dollars it would not be done with personal exemptions as high as \$2,500 and \$1,000. Still, the 40 points is a useful figure to remind us how far we have moved, in so short a time, from the dollar income levels of the late thirties.³⁶ To raise 3.7 billion dollars on a surtax base of 23.7 billions would require an average of 16 additional percentage points all along the surtax rate scale. The 23.7 billion dollar surtax net income reflects income payments of 92 billions as distributed in 1941, with personal exemptions and credit for dependents of \$1,500, \$750, and \$400. Using the higher interest figure (6.3 billions) for the middle fifties implies an additional 27 percentage points on the surtax scale, under these conditions. Evidently the political and social repercussions

³⁶ If, instead of the \$3.7 billion figure, the upper figure in Table IV is used—\$6.3 billion (reflecting the high-interest segment of the Savings bonds' span)—the required addition is 68 percentage points. But this higher interest charge would not be reached until 1953, and by that time the country would supposedly be well above a \$71-billion income-payments level even in a depression.

of the economically significant part of the assumed interest payment would be substantial at an income payments level of 92 billions.

Data showing the surtax net income that accompanied the 116 billion dollars of income payments and the still lower exemptions of 1942 are not available as this is written, but perhaps it will be not far from 40 billions.^{36a} To raise 3.7 billions on such a surtax base would require an additional 9 percentage points all along the surtax rate scale; to raise 6.3 billions would require an additional 16 points.

Even 9 additional points on the surtax scale is enough to create a good deal of difficulty for the Ways and Means Committee and Finance Committee. Table VI shows the increase, in percentage points,³⁷ at several surtax income levels, that was enacted by Congress in the big war revenue bill, the Revenue Act of 1942. The increase was slightly greater than the last column would indicate, since the personal exemptions and the credit for dependents were lowered at the same time (see Table V).

TABLE VI

Surtax Net Income*	Rate Set in Revenue Act of 1942 for Block of Surtax Net Income Indicated	Increase over Rate Set in Revenue Act of 1941
Not over \$ 2,000	13	7
Over \$ 4,000 but not over \$ 6,000	20	7
Over \$ 10,000 but not over \$ 12,000	32	7
Over \$ 32,000 but not over \$ 38,000	58	8
Over \$100,000 but not over \$150,000	79	14
Over \$200,000	82	5 to 15

* Personal exemptions were lowered substantially and credit for dependents lowered slightly in the 1942 Revenue Act. In addition, the normal tax rate was increased by 2 percentage points.

The increase was larger, at some levels, in the Revenue Act of 1941 (over the levels set by the Revenue Act of 1940), as Table VII shows.

The largest increase in any bracket of the scale was 17 percentage points, for all the brackets lying between \$12,000 and \$44,000. If, because of the interest payments, Congress needs to impose an extra 10 points or so to forestall or check a postwar inflation, experience does not give grounds for believing that the increase will be readily voted.

The income payments level of 142 billion dollars probably supplies a surtax net income (under present exemptions and credit) of nearly 60 billions. To raise 3.7 billions extra on such a base would require

^{36a} A Treasury press release of April 28, 1944, giving a preliminary report on 1942 individual incomes, indicates a surtax base of \$37 billion (if a 10% deduction is assumed from the gross income of 1040A returns).

³⁷ That is, an increase of 7, to 13, means that the rate in the 1941 Act was 6%, and in the 1942 Act, 13%.

only 6 percentage points on the surtax scale. To raise 6.3 billion dollars would require $10\frac{1}{2}$ points. The 142 billion level, however, may represent, on balance, superemployment (at present price levels); that is, more people working and many of them working longer hours and more intensely than they will want to in the postwar period even assuming that everyone easily finds all the work he wants.

A common comparison, in studies of a national government's interest charge, is between national income and the amount of interest; the interest is expressed as a percentage of income. From the viewpoint of the

TABLE VII

Surtax Net Income*	Rate Set in Revenue Act of 1941 for Block of Surtax Net Income Indicated	Increase over Rate Set in Revenue Act of 1940
Not over \$ 2,000	6	6
Over \$ 4,000 but not over \$ 6,000	13	9
Over \$ 10,000 but not over \$ 12,000	25	15
Over \$ 32,000 but not over \$ 38,000	50	17
Over \$100,000 but not over \$150,000	65	7
Over \$200,000 but not over \$250,000	67	5

* Personal exemption for married taxpayers was lowered substantially and for single taxpayers slightly in Act of 1941. "Defense tax" of 1940 (10% of ordinary tax—less on high incomes), repealed in 1941, not included.

present paper, such a comparison is invalid for two reasons: first, part of the interest payment is either sterilized or is absorbed by already existing taxes and hence adds little or nothing to the social, political, or economic strains that are associated with taxation; secondly, it is the tax base in conjunction with the national income, not the national income alone, that is relevant in a comparison that seeks to measure the strains imposed by the taxes that are levied because of the interest payment. Four or 5 billion dollars a year of revenue through higher tax rates or new taxes, made necessary by a postwar interest charge, is small compared with a national income of 120 billion to 140 billion dollars.³⁸ This kind of comparison, however, does not indicate the degree of strain—social, political, and economic—that may be involved in such taxation. Most of the national income is nontaxable in the sense that it reflects the bare necessities of life, and is not likely to be tapped. The tax rate on the remainder of the income must be correspondingly higher; and for many purposes the height of the rate is a significant datum. The political difficulties, the social strains, and the total effect on economic incentives are not all the same under a tax at a high rate on a small tax

³⁸ Data on income payments were used above because the discussion was in terms of the individual income tax. For the more general discussion here, national income data are more relevant.

base as under an equivalent tax (equivalent as to revenue, or under any other standard) at a low rate on a large base. Compared with the surtax net income base that may be available, even under a national income of 140 billion dollars, new taxes or higher rates to raise 4 billions or 5 billions are not negligible. Neither do they appear to be enough to cause an economic deadlock. But both of these observations can be only tentative until the rest of the fiscal picture-puzzle is filled in by other studies, for the significance of the extra 5 or 10 points on the surtax scale, or of the sales tax, or whatever tax measure is used, will depend greatly on the already existing level of taxation. If, for example, 5 or 10 points go on top of a surtax scale that already starts at, say, 10 per cent and rises to a maximum of, say, 40 per cent, the effects of the extra points would presumably be much smaller than if they must go on top of a surtax scale that starts at, say, 30 per cent and rises to 80 or 90 per cent.

If interest rates rise, the added number of points required on the surtax scale by the interest charge will grow correspondingly. On a 60 billion dollar surtax base, 5 billions requires an average of slightly over 8 points increase; and 9 billions—the possible economically significant interest charge in 1953—would require a 15 point increase.

The economic impact of such tax increases might possibly be lightened by spreading the increase among several taxes. And it must be recalled that the assumed postwar debt is somewhat larger than is commonly contemplated at this time.

Over a somewhat longer postwar period than is covered by this paper, a factor of major importance would need to be considered: the possibility that the general price level would decline. If it declined gradually because productivity increased, the total national money income could remain the same, and the tax rates could (roughly speaking) remain the same. The interest recipients would be getting a larger real income than they had contracted for. Whether the community would be disturbed by that fact is a question that is merely posed here, not developed. If the general price level declined owing largely to causes other than increased productivity, the question then arises whether the decline would or would not be associated with a large amount of unemployment. This question, too, can only be mentioned here. In any complete study of the postwar interest problem it obviously deserves attention.

V. Conclusion

Actually, the present analysis has only started to give a quantitative answer to the question: what are the economic implications of the federal interest charge? A quantitative answer cannot be given, even

in roughest form, without assuming some alternative war finance policy that somehow or other would have avoided the creation of all or a part of the interest charge. The results under the latter program, compared with the results under the program assumed here, would give the kind of an answer that would be useful to the policy maker. For example: if all the government's wartime borrowing had been done at the Federal Reserve banks, it does not necessarily follow that the postwar tax requirements to prevent a postwar inflation would have been any less than they are going to be under the existing pattern of borrowing. The economically significant postwar interest charge would indeed have been zero; but the postwar stock of money in the hands of individuals and business firms would have been much larger. It is conceivable that the decrement of postwar taxation made possible by the lack of an economically significant interest charge would be just about offset by the increment of taxation needed to keep in check the inflationary power of the extra stock of money. Nothing in the analysis of the present paper indicates that the postwar tax requirements, as measured by the aim of preventing or checking a postwar inflation, are going to be any greater under the present borrowing pattern than they would have been under some other financing pattern that involved no substantial increase in wartime taxation. Even if a much heavier wartime taxation program is postulated in the alternative financing program, some important parts of the answer are not easily discernible. For instance, would a much heavier wartime tax program have resulted in a lower level of factor prices, especially wages—or a higher level—than now prevails? About all that the present analysis does indicate is this: under the existing finance policy, if heavy deficits continue for another two or three years, the federal government in the postwar period will have to impose more taxes, equivalent to perhaps 10 points or so on the surtax base as defined in the Revenue Act of 1942 (and many more points if interest rates rise) than if there had been no war. But even this comparison is highly conjectural; the present paper is therefore essentially a descriptive or classificatory statement, not a testing of a particular consequence derived by reasoning from some general hypothesis concerning the interdependence of two or more variables, such as the amount of the federal interest charge and the *total* amount of taxation to be imposed.³⁹

³⁹ The analysis here does study part of the relations between (a) the amount of the interest charge and (b) the incremental amount of taxation to be imposed on top of an unspecified initial amount of taxation imposed for all reasons other than the interest charge. But, as indicated above, this *unspecified* initial, or base, amount of taxation may be different under some other program of war finance; e.g., a program whereby the borrowing is done wholly from the Federal Reserve banks. Hence the *total* amount of taxation is not, in the analysis above, made a function of the interest charge.

APPENDIX A

Holdings of Federal Obligations by Commercial Banks

I. Holdings of 6149 Commercial Banks, September 30, 1943^a

Type	Par Value (in billions)	Current Interest Rate	Current Annual Interest (in millions)
1. <i>Subject to federal income taxes</i>			
Certificates of indebtedness	\$11.9	7%	\$104
Treasury bills	6.4	3%	24
Treasury notes	7.0	1.3 ^b	91
Treasury bonds	12.4	2 ^b	247
Guaranteed issues	0.8	1 ^b	8
2. <i>Partially exempt from federal income taxes</i>			
Treasury bonds	13.5	2.8 ^b	379
Guaranteed issues	1.7	2.3 ^b	40
3. <i>Wholly exempt from federal income taxes</i>			
Treasury notes	0.6	0.9 ^b	5
Treasury bonds	c	2.2 ^b	—
4. <i>Other than public marketable interest-bearing (1, 2, and 3)</i>			
Depository bonds, Savings bonds and Savings notes			13
Total	55.0		911

^a *Treasury Bulletin*, November, 1943, pp. 48-49.

^b Weighted average.

^c Less than \$50,000,000.

II. Computation of Net Interest Payment After Tax

	For the 6,149 Commercial Banks (in millions)	For All Commercial Banks, Assuming Data in col. (1) Are 95% of Total (in millions)
Total current annual federal interest now being received by commercial banks on holdings, as of September 30, 1943, of which,	\$911	\$959
Wholly exempt from federal taxes	5	6
Exempt from normal tax (and surtax on first \$5,000 of principal)	419	441
Fully taxable	487	512
Estimated current federal corporation income and excess profits taxes		270
Net interest payment		689

III (b) Increments in End-of-Month Holdings of Federal Obligations by Commercial Banks and Federal Reserve Banks, September 30, 1942-September 30, 1943

(money figures in billions of dollars)

Number of Commercial Banks Reporting	Year	Total Public Debt and Guaranteed Obligations	Total Held by Commercial Banks, Reported Figure Times 1.053	% of Total Held by Commercial Banks	Increment in Total	Increment in Commercial Bank Holdings	% of Increment Taken by Commercial Banks	Increment in Federal Reserve Bank Holdings	Increment Taken by Federal Reserve Banks and Com. Banks	% of Increment Taken by Commercial Banks and Federal Reserve Banks
5,764	1942 Sept.	91.1	32.7	36	6.1	2.5	41	1.1	3.6	59
5,760	Oct.	97.2	35.2	36	3.2	1.5	47	0.7	2.2	69
5,758	Nov.	100.4	36.7	37	12.1	4.5	37	0.8	5.3	44
5,751	Dec. 1943	112.5	41.2	37						
5,745	Jan.	115.4	42.8	37	2.9	1.6	55	-0.2	1.4	48
5,739	Feb.	118.3	43.2	37	2.9	0.4	14	-0.1	0.3	10
5,739	Mar.	119.9	43.9	37	1.6	0.7	44	0.1	0.8	49
5,738	April	134.2	48.6	36	14.3	4.7	33	0.5	5.2	36
5,736	May	140.0	52.2	37	5.8	3.6	63	-0.2	3.4	59
5,785	June	140.8	51.7	37	0.8	-0.5	27	1.0	0.5	60
6,090	July	145.3	53.6	37	4.5	1.9	41	1.0	2.9	65
6,139	Aug.	148.0	54.7	37	2.7	1.0	41	0.9	1.9	72
6,149	Sept.	162.3	58.0	36	14.3	3.3	22	-0.2	3.1	22
(Subtotals, September, 1942-September, 1943)					(71.3)	(25.3)	(35)	(5.3)	(30.6)	(43)

Source: Treasury Bulletin.

III (a) Recent Trends in Commercial Bank Holdings of Federal Obligations

Recent trends indicate that the commercial banks' future purchases of federal obligations will be split three ways, about equally, between certificates ($\frac{7}{8}$ per cent), notes ($1\frac{1}{2}$ per cent), and bonds (2 per cent); the bill holdings will probably not increase at all. An average interest rate of about $1\frac{1}{2}$ per cent will therefore probably prevail on such purchases.

Of the last 50 billion dollar increase in federal debt (12/31/42-9/30/43), the commercial banks took 16.8 billions (33 per cent). The total commercial bank holdings are estimated by multiplying the holdings of those banks reported in the *Treasury Bulletin* by 1.053.

III (c) Nature of Commercial Bank Holdings of Public Marketable Interest-Bearing Federal Obligations, August 31, 1942-September 30, 1943

(in billions of dollars)

	Bills	Certificates of Indebted- ness	Treasury Notes	Treasury Bonds	Guaranteed Issues
8/31/42	2.6	3.0	3.6	16.4	2.9
9/30/42	2.9	4.0	4.5	16.4	2.9
10/31/42	3.5	3.8	5.8	17.4	2.6
11/30/42	4.2	4.4	5.8	17.4	2.7
12/31/42	4.5	6.5	5.7	19.4	2.7
1/31/43	5.6	6.6	5.7	19.8	2.65
2/28/43	5.3	6.8	5.7	20.1	2.7
3/31/43	5.1	6.8	5.85	20.8	2.7
4/30/43	6.4	9.2	5.8	21.5	2.8
5/31/43	7.0	9.8	5.8	24.0	2.6
6/30/43	6.5	9.8	5.5	24.2	2.6
7/31/43	5.9	9.9	7.5	24.7	2.4
8/31/43	5.2	11.0	7.5	25.2	2.5
9/30/43	6.4	11.9	7.6	25.9	2.6

Source: *Treasury Bulletin*.

APPENDIX B

Computation of Interest on Assumed Federal Debt of June 30, 1946

Savings Bonds. The interest on the Savings bonds (series A-F) may be computed in any one of several ways, depending on the question being asked. The August, 1943, *Treasury Bulletin* (page 4) shows for series E, F, and G bonds, as of each half-year period during the ten years, the approximate investment yield (1) on purchase price from issue date to beginning of each half-year period and (2) on current redemption value from beginning of each half-year period to maturity.

These percentages are averages for periods starting with issue date or ending with maturity date. For the analysis in the text above, a different kind of computation is more relevant: we ask, what is the rate of interest obtained by holding the bond for one more year starting with any given year, and expressing the rate as a percentage of the redemption value of the bond at the start of the given year? For example, the redemption value at the start of the seventh year, for an E bond with an issue price of \$37.50, is \$42.00, and the redemption value at the start of the eighth year is \$44.00. The difference, \$2.00, is 4.76 per cent of \$42.00. Moving back one year, the current redemption value at the start of the sixth year is \$41.00. The \$1.00 accrual gained by holding to the seventh year is 2.44 per cent of \$41.00. So, if a wave of redemptions happened to hit the Treasury at the start of the sixth year of life of the bonds instead of the seventh year, the Treasury would be spared the necessity of providing 2.44 per cent interest for that extra year; but if the redemption demands came at the start of the seventh year instead of the eighth, this particular set of alternatives means 4.76 per cent interest for the year. The percentages for each of the years are shown in Table B-1 below.

TABLE B-1
SERIES E, SAVINGS BONDS
Interest, from Beginning of Specified Year Following Issue Date to Beginning of Next Year
As Percentage of Redemption Value at Beginning of Specified Year
Example: Bond with Issue Price \$37.50

Year Following Issue Date	Redemption Value at Beginning of Next Year	Difference Between Redemption Value at Beginning of Specified Year and Beginning of Next Year	
		In Dollars	As Percentage of Redemption Value at Beginning of Specified Year
1st	\$37.75	\$0.25	0.67
2nd	38.25	0.50	1.32
3rd	39.00	0.75	1.96
4th	40.00	1.00	2.56
5th	41.00	1.00	2.50
6th	42.00	1.00	2.44
7th	44.00	2.00	4.76
8th	46.00	2.00	4.55
9th	48.00	2.00	4.35
10th	50.00	2.00	4.17

The accruing interest on the discount Savings bonds (series A-F) assumed outstanding June 30, 1946, has been computed in this way, and the results are shown in Table B-2 below. If it is assumed that new Savings bonds of the same kind are issued to refund, the interest

charge attributable to the refunding bonds is less than 50 million dollars until 1954, in which year, however, it rises to 250 millions or so. The second "Total" line in Table B-2 includes interest (computed the same way, from Table B-1) on such assumed refundings.

TABLE B-2

ANNUAL INTEREST CHARGE AFTER FISCAL YEAR 1946 ON DISCOUNT SAVINGS BONDS IN TERMS OF INCREASED REDEMPTION VALUE FROM ONE YEAR-END TO THE NEXT
(in billions of dollars)

Assumptions: (1) Redemptions Before Maturity Almost Wholly of Bonds Held Less Than One Year

(2) Sales Less Redemptions Equal \$11 Billion in Each of Fiscal Years 1944-1946

Accrual of Interest at Rates (on Redemption Value at Start of Preceding Fiscal Year) Indicated in Table B-1^a

(Apparent discrepancies in addition are due to rounding off to nearest tenth of a billion)

Year of Purchase	Amount Assumed Purchased and Held to Maturity ^b	Cumulated Redemption Value on which 1947 Interest is Computed ^c	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
1937 ^d	0.5	0.6	•									
1938	0.4	0.5	•	•								
1939	0.6	0.7	•	•	•							
1940	1.0 ^f	1.2	0.1	0.1	0.1	0.1						
1941	1.0 ^f	1.1	•	0.1	0.1	0.1	0.1					
1942	3.9	4.1	0.1	0.1	0.2	0.2	0.2	0.2				
1943	8.4 ^f	8.7	0.2	0.2	0.2	0.4	0.4	0.4				
1944	11.0 ^g	11.2	0.2	0.3	0.3	0.3	0.6	0.6	0.6	0.6		
1945	11.0 ^g	11.1	0.1	0.2	0.3	0.3	0.3	0.6	0.6	0.6	0.6	
1946	11.0 ^g	11.0	0.1	0.1	0.2	0.3	0.3	0.3	0.6	0.6	0.6	0.6
Total	48.8	50.2	0.9	1.1	1.4	1.6	1.9	2.1	2.2	1.8	1.2	0.6
Total including interest on Savings bonds assumed issued to refund old Savings bonds			0.9	1.1	1.4	1.6	1.9	2.2	2.3	2.0	1.6	1.3

^a The rates applicable to series A-D discount bonds differ slightly, but not enough to affect the significance of the present computations.

^b Equals "Total funds received" from "Gross sales," less "Total redemptions," plus "Accrual of redemption values" (= "Net change"), *Treasury Bulletin*, August, 1943, p. 34.

^c Computed by applying, to the "amount assumed purchased," the approximate-investment-yield percentage on the purchase price for the number of years held (*Treasury Bulletin*, August, 1943, p. 4), multiplying by number of years held, and adding to amount purchased; e.g. \$483,000,000 times .0276 times 9 (years) is added to \$483,000,000 to get the base for applying the 4.17% specified in Table B-1.

^d 1935 and 1936 disregarded as quantitatively unimportant.

^e Less than \$50 million.

^f Apparent discrepancy between 133 per cent of the amount in the first column and the sum of the succeeding amounts on the same line results from rounding off to nearest tenth of a billion.

^g Hypothetical.

Before including interest on refunding bonds, the annual interest charge on the discount Savings bonds assumed outstanding on June 30, 1946, with a redemption value at that time of 50 billion dollars, is 0.9 billions in 1947, and rises fairly evenly to a peak of 2.2 billions in 1953, tapering off to 0.6 billions in 1956, the last year of these calculations. Including interest on refunding Savings bonds, the total is the same (in tenths of billions) until 1952, and the peak, also in 1953, is higher by only 0.1 billion dollars.

The computations do not take account of the fact that series A-D and series F of the discount bonds have different sets of annual in-

terest accruals from series E, but the error thus introduced is almost negligible in the present computations (to the nearest tenth of a billion dollars) in view of the slightness of the difference in the series A-D schedule and the small amount of series F outstanding (1.2 billion dollars on June 30, 1943).

In principle, the same kind of computations should have been made for series G bonds, but it did not seem worth while to do so, in view of the much smaller amount assumed outstanding and the smaller variations in the year-to-year interest rates. On June 30, 1943, 5.1 billion dollars were outstanding; there is assumed an increase of 3 billions a year in each of the fiscal years 1944-46 inclusive; and to the resulting total of 14.1 billions, the average interest rate for holding over the twelve-year life of the bond—2.5 per cent—is applied, giving an annual postwar interest charge of 0.4 billions a year.

In summary: computed on the year-to-year basis, the annual interest charge on the amount of Savings bonds assumed outstanding June 30, 1946, varies between 1.3 billions and 2.7 billions a year, provided each bond is held to maturity and the maturity value is refunded by a similar type of bond.

This computation assumes that, considering the Savings bonds by themselves, the money to pay the interest is borrowed. This is merely a convenient assumption to make in the present rough computations, and is not intended to imply that in general the interest on the federal debt will be met this way. The discount feature of the A-F bonds does, however, offer some interesting points for speculation. It seems likely that accumulated interest on matured Savings bonds and principal will constitute a payment that is homogeneous as concerns the bondholder's decision what to do with the money. He is not likely to consider his \$25, for example, as consisting of two elements, one the \$18.75 that he put in and the other the interest that has accrued. The government then in office may take the same attitude. It may seem natural, whether or not desirable, to talk of refunding, not the \$18.75 that originally went into the Savings bond, but the \$25 that is paid out. To put it another way, will the then Secretary of the Treasury urgently demand a rise in current taxes by enough to pay the long-accrued interest element in every bond that is being presented for redemption, while borrowing only enough to pay off the original purchase price? It seems unlikely that he will. The use of discount bonds probably promotes a tendency to borrow to pay interest. Of course it would be possible to keep tax revenues as high in the intervening years as they would be if coupon bonds were issued, and, to that extent, there would be just as much or just as little borrowing to pay accrued interest as to pay coupon or check interest. Perhaps that is the case at the moment, if

only because Congress has given little or no explicit attention to the interest on the federal debt, accruable or otherwise, current or postwar, in setting its tax goals in the past few Revenue Acts. The question still remains, though, how will postwar Congresses react to the accumulated interest feature?

For certain purposes, as explained in the text above, it is important to consider not the year-to-year accrual of interest on discount Savings bonds, but the accumulated interest at time of maturity. Under the assumptions made thus far, this amount will be one-third (slightly less for series F) of the amount assumed purchased and held to maturity (see first column of figures, Table B-2). The cumulative interest charge payable on maturity under these assumptions is as follows:

Fiscal Year	Accumulated Interest Payable on Maturity (billions)
1947	\$0.2
1948	0.1
1949	0.2
1950	0.3
1951	0.3
1952	1.3
1953	2.8
1954	3.7
1955	3.7
1956	3.7

To this must be added the 0.4 billion dollars a year on series G bonds. The total of interest actually paid out to holders of Savings bonds hence rises from 0.6 billions in fiscal 1947 (0.5 billions in fiscal 1948) to 4.1 billions in fiscal 1956 (assuming the G bonds are refunded with similar bonds).

Treasury Bonds Held by "All Other Investors." In estimating the interest on Treasury bonds (including "other bonds") held by "all other investors," data in the *Treasury Bulletin* (November, 1943, page 48), showing the distribution of the various types of Treasury bonds as of September 30, 1943, are helpful. Of the total 16.1 billions of Treasury bonds so held (including some bank and insurance company holdings), 5.0 billions carried a 2 per cent coupon, 5.4 billions a 2½ per cent coupon, 1.2 billions a 2¾ per cent coupon, and 1.0 billions a 2⅞ per cent coupon. There were 2.3 billion dollars with a coupon of 3 per cent or higher, but 1.7 billions of these were callable before July 1, 1946, and this 1.7 billions, it may be assumed, are refunded at 2 per

cent to $2\frac{1}{2}$ per cent. Only one issue with less than a 2 per cent coupon was held—0.6 billion dollars. Of the total 16.1 billions, 0.1 billions were wholly tax-exempt, 5.5 billions partially tax-exempt (of which 1.7 billions were callable before July 1, 1946) and 10.5 billions were fully taxable (federal taxes).

If the interest structure of 1943 is maintained throughout fiscal 1944, 1945, and 1946, and the new bonds carry an average $2\frac{1}{4}$ per cent coupon, an average interest rate of $2\frac{3}{8}$ per cent may be assumed for June 30, 1946, for the 35 billion Treasury bonds held by "all other investors" (excluding, here, all bank and insurance company holdings). All but about 4 billion dollars will be fully taxable; these 4 billion carry an average coupon rate of $2\frac{7}{8}$ per cent. Hence the remaining 31 billions can be assumed to average $2\frac{1}{4}$ per cent.

Treasury Bonds Held by Insurance Companies. The larger part of the insurance companies' holdings of Treasury bonds on September 30, 1943, was in the $2\frac{1}{2}$ per cent issues. An average of $2\frac{1}{2}$ per cent on the assumed 21 billion dollars of June 30, 1946, seems reasonable, giving an annual interest charge of 0.5 billions.

Commercial Bank Holdings. An estimate of the interest on the federal obligations assumed to be held by the commercial banks on June 30, 1946, involves substantial errors, both because of the large holdings and because the investment policy with respect to maturities may change. With respect to their 57 billion dollars of holdings of public marketable interest-bearing federal securities as of September 30, 1943, the banks would be receiving in the postwar period, after allowing for refunding, about 700 millions in interest fully subject to the federal income tax and about 200 millions subject only to surtax.

The banks are assumed to add 54 billions to the 57 billions. They have been dividing their recent increases in federal holdings about evenly among certificates of indebtedness, notes, and bonds, though over a longer period—a full year back—the note purchases have been less important than the other two. As bank holdings grow, it is likely that there will be a slight drift to shorter maturities, hence to lower average interest rates. On the whole, an average rate of 1.5 per cent on the additional 54 billion dollars is probably reasonable. This gives a total of 1.7 billions interest.

Other Holdings. Certificates of indebtedness are assumed to continue the $\frac{7}{8}$ of 1 per cent rate that has been employed thus far.

Federal Reserve bank holdings are assumed to be almost entirely in bills, at $\frac{3}{8}$ of 1 per cent.

The "interest on investments" in the Unemployment Trust Fund, the Federal Old-Age and Survivors' Insurance Trust Fund, and other trust accounts was estimated at about 300 million dollars for fiscal 1944 in the Budget for Fiscal 1944. This is apparently the interest on the more than 11 billion dollars of "special issues" that will be outstanding in fiscal 1944, indicating an interest rate of about $2\frac{1}{2}$ per cent, which is used in Table III.

The Treasury notes of the tax and savings series carry an interest rate averaging close to 1 per cent if the notes are held to maturity. This rate is used in Table III.

The mutual savings bank holdings are concentrated in the Treasury bond issues, chiefly in the $2\frac{1}{2}$ per cent issues. An average rate of $2\frac{1}{2}$ per cent on June 30, 1946, holdings seems reasonable.

For the balancing item, all other holdings, an interest rate of $1\frac{3}{4}$ per cent has been assumed.

DISCUSSION

ABBA P. LERNER: The criticisms that I have to make of Professor Shoup's paper would probably be accepted almost entirely by him. It seems to me that his separation of the significant portions of the interest payments on the federal debt, although a careful and useful piece of work, is liable to lead to misunderstanding. Professor Shoup has investigated how much of the interest payments would be available for increasing private spending that might have to be offset by government measures to prevent inflation. Many readers will be tempted to assume that there is an inevitable necessity for a corresponding amount of additional taxation. This does not follow, as I am sure Professor Shoup clearly sees. The private spending out of interest payments may instead take the place of public works or other expansionary measures that would otherwise be needed to check a deflation.

Professor Shoup quotes from my article on functional finance the statement that the government should never tax merely for the purpose of raising money, and goes on to argue that this does not differ as much from traditional public finance as might appear on the surface. If total effective demand is just sufficient to provide full employment without threatening inflation, the significant portion of the interest payment on the national debt, by increasing the income of the recipients, induces them to spend more. This excess spending must be counteracted by taxation. Consequently the payment of the interest involves the necessity of raising more in taxes, and we seem to be back almost at the old formulation which declares that the government must impose taxes because it has to raise the money to make the interest payments. There remains only the difference, stressed by Professor Shoup, that the additional taxes need not be *equal* to the amount of the interest payments. There is no one-to-one ratio between the interest payments and the extra taxes they make necessary; and the paper consists in part of a search for an alternative ratio. Such searching after ratios which cannot adequately express a more complex economic relationship—and which are then abandoned for other equally unsatisfactory ratios—is very common in the history of economic thought. I need only mention the velocity of circulation and the organic composition of capital.

The essential advantage of the new formulation is that it completely abandons the search for any such ratio. Professor Shoup is properly concerned with the harm to society that can come from additional taxes made necessary by the interest payments. But the exact nature of the harm is obscured by the reversion to the old formulation.

If we approach the matter from the new formulation, we can see that most of the apparent evils from these taxes do not arise. There are five such apparent evils.

First, the extra taxes are necessary only when in their absence there would be too great an effective demand. They cannot, therefore, be conceived as reducing demand below the optimum level. The taxes should never be imposed beyond the point at which they would begin to have such an effect, so that the extra taxes can never be blamed for causing unemployment.

Second, we should never be disturbed by the very high rates of additional taxes that would be necessary to raise a sum equal to the significant portion of the interest payments from a national income less than that corresponding to full employment. However bad might be the effects of such heavy taxes they need never be imposed. Since the taxes are needed only when effective demand would otherwise outstrip full employment and bring inflation, it is only the smaller tax rates that correspond to a full employment level of income that are significant. These Professor Shoup has shown to come to an additional 5 to 10 per cent surtax.

Third is the extreme difficulty, indicated by Professor Shoup, of calculating beforehand just how much must be the additional tax rate to offset the extra spending that comes from a given quantity of interest payments. This difficulty can be granted, but it is of no practical importance because there is no practical need to calculate beforehand the amount of taxes needed to offset a single influence abstracted from the enormous number of influences that determine total effective demand. The adjustment that is necessary is an adjustment to *total* spending. All that need be observed is the total amount of spending so that steps may be taken to prevent it from becoming too great or too small. By a similar argument one could point out the impossibility of calculating beforehand the exact degree of rotation and pressure that must be applied to the steering wheel of a car in driving round the Pentagon Building. Yet this does not prevent many nonmathematicians from driving their cars every day. This is because they are not concerned with the exact calculation of a small part abstracted from their problem and are content to watch the way the car is going and to keep it from going too far to the right or to the left.

Fourth, whatever difficulties there are in balancing the total expenditure of the economy, and there are many difficulties, these are no greater when the interest payments are larger than when they are smaller. There is exactly the same problem of watching the total rate of spending and preventing it from being too great or too small.

Fifth, there is the political argument that if it is difficult to get appropriate taxation to prevent too much demand at the present time, in spite of the extra incentives and patriotism of wartime, how much greater would be the difficulty of preventing inflation in peacetime! Against this one must not forget that in peacetime there will not be the great restriction on consumption that war makes necessary, so that even after all the necessary taxes have been paid the people will still have enough money left to buy almost the whole of the national output in full employment. Although this does not guarantee that political resistance to the necessary taxation will be overcome, it does help by removing most of the objective basis for the objections; and those who believe in the possibility of democracy must suppose that there is at least some connection between political pressures and the objective bases underlying them.

The first four of these supposed evils of taxation are thus shown to be irrelevant, and the fifth—the political difficulty—is not peculiar to the new formulation, since people always have objected—and perhaps always will

object—to taxation. The advantage of the new formulation is that by showing these five items to be irrelevant it permits us to see clearly what is the real evil that is done by taxation and that may be aggravated by the need for higher tax rates because of the interest payments.

This evil consists fundamentally of a deviation between the net payment for work after taxation and the value of the marginal product of the work. If a worker has to give the government thirty cents out of an extra dollar he could earn, he will not make the effort to earn it beyond the point where the disutility of the work goes above seventy cents. If the value of his marginal product is a dollar (and he would not be paid a dollar by the employer if it were not at least a dollar) the refusal to work may involve a net social loss of as much as thirty cents. If he is willing to work for a net of eighty cents but refuses because he gets only seventy, there is a net social loss of twenty cents, the difference between the value of the marginal product and the disutility of the effort.

In the same way as the tax interferes with the allocation of labor time between work and leisure it can also interfere with the decision between saving and consuming and with the undertaking of risky enterprise. This is a serious problem and it is the duty of economists to discover what forms of taxation do least harm of this kind.

Theoretically the ideal tax would be a kind of poll tax; that is, it should be independent of the amount of work, saving, or enterprise undertaken by the taxpayer so that it will not disturb his decisions. The amount of the tax should ideally be based on the individual's "faculty" or ability to earn money in excess of his basic needs. But in practice this cannot be done because estimates of the individual's faculty would inevitably be based on his actual income. The individual would become aware of this so that the poll tax would degenerate into a kind of income tax. There is room for study to see whether capital taxes and inheritance taxes could not be developed which would be better than income taxes in this respect. But whatever conclusions may be reached as to the best way of removing excess purchasing power, we must recognize that this problem is of minor importance compared to that of maintaining adequate total demand and preventing inflation.

The tax problem is concerned with seeing that the employed resources are put to work in the most efficient manner. It would seem fantastic if we were to refuse to employ all our resources for fear that if we did we might not be using them in the best possible manner. Yet this is exactly what less careful or less scrupulous readers are likely to conclude from a sophisticated study like Professor Shoup's. This can be seen, for example, in the recent editorials in the *New York Times* stressing that we cannot "afford" to borrow money in peacetime if that should be necessary to maintain employment. The fear of having to raise taxes in the future to offset excessive spending out of interest on the debt may thus continue, as a more sophisticated "sound finance" to lead us to waste our resources in unemployment—just like the boulevardier who, to prevent the threatening rain from spoiling his clothes, jumped into the Seine.

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MANAGEMENT OF THE PUBLIC DEBT AFTER THE WAR¹

By SIMEON E. LELAND
University of Chicago

Debt management in postwar years will be determined by uncertain variables produced by unpredictable future events and by heritages from present policies. Some events cast their shadows (or even gloom) before them. The problems thus created are predictable. Present debt policies and debt magnitudes inevitably create future problems which, in part, at least, may be envisaged.

The variables affecting even the known problems of debt management are numerous. What will be the debt outstanding at the end of the war? Will it continue to rise during postwar years? Or will the rise abate until depression begins? Then, will it soar like a continuation of the war debt, or will the rise resemble that of the thirties? If the increase is to continue, what form will the debt take? How will the schedule of maturities be affected? To whom will the obligations be sold? What will be the interest rates? The answers to these questions may dispose of the possibility or desirability of debt reduction. If the national debt can be reduced, by what means is it to be accomplished? What is to be the rate of redemption? At what time or periods in the cycle should it take place? Not only must the discussion of future debt management be prefaced by assumptions concerning the state of business, the volume of production, the level of employment and the price level, but the supply of capital, bank resources, national income, interest rates, tax structure, as well as other factors, are involved. No less important are the activities of the government itself. Will present levels of taxation be maintained? If taxes are to be reduced, where is the reduction to come and what will be the amount? War expenditures will be curtailed, but at what point? What will be the scale of other expenditures? Does the country want debt reduction, increased public and social services, or both? Is the budget to be balanced? When and for how long?

Answer these questions one way and the problems of debt management are of one order. Change the answers, or the assumptions, and the debt problems likewise change. It is foolish to attempt to predict what will happen. The present discussion will deal with some of the problems of debt management in our capitalist society with its profit-

¹In the preparation of this manuscript the writer is indebted to his colleagues Messrs. L. W. Mints and Henry S. Bloch, and to Messrs. John K. Langum and William W. Tongue, of the Federal Reserve Bank of Chicago, for numerous suggestions and criticisms. He is especially indebted to Mr. Jacob Cohen, Fellow in the University of Chicago, for suggestions and assistance throughout the manuscript. They are not to be held responsible for the author's errors of fact or conclusions, nor are the opinions expressed to be attributed to the Federal Reserve System or the Federal Reserve Bank of Chicago.

making institutions and motivations, with its shibboleths and prejudices concerning economic and monetary phenomena. In this analysis we shall not depart widely from present patterns of economic behavior, or from present trends, except as necessary to the exposition of policies of debt management. Imaginary difficulties are not required to focus attention on dilemmas likely to confront the government.

Debt management cannot be considered apart from other fiscal policies of government. It is an instrument of fiscal policy like taxation, borrowing, and expenditure. All phases of fiscal policy interact and condition each other and all must be geared to the relevant stage of the cycle. It is hard, for example, to separate borrowing policy and debt management. The one often conditions the other and it by no means follows that the policies envisioned at the time of issuance may be continued during the life of the loan or that wise debt management will not be able to correct some of the mistakes made at the time of borrowing.

Like other elements of fiscal policy, debt management embraces far more than the purely financial programs appropriate for a private corporation. The general state of the economy, as has been suggested in the opening paragraphs, must be the controlling factor in policy determination. Consequently, debt management policies in the postwar years ought to vary as the economy enters the reconversion period, as it passes into a period of enlarged production characterized by various levels of employment, or as it moves on into a boom or, with spent force, enters depression. No prediction of the actual course of events can be attempted, but on succeeding pages policies appropriate to inflation and deflation shall be discussed, defining these terms broadly.

Six major problems in the management of the postwar debt will confront us: (1) redeeming or funding^{1a} the nonmarketable securities; (2) keeping afloat or funding the marketable short-term debt; (3) maintaining, or not maintaining, the market for outstanding issues; (4) meeting the maturity schedules and adjusting the composition of the debt; (5) reducing or paying the debt; (6) covering the interest costs or reducing their weight.

These problems face us today regardless of future increases in the public debt. Unfortunately, time is not available for the discussion of all of them. Problems of payment of principal and interest will, therefore, be postponed for another occasion.

^{1a} "Funding" and "refunding" are used interchangeably in this manuscript as applied to operations affecting the nonmarketable debt. Which term is technically appropriate depends on whether the nonmarketable issues are to be regarded as demand obligations or as long-term securities.

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I. The Nonmarketable Debt

One of the unique developments in financing this war, in contrast with the first World War, has been the issuance of large amounts of nonmarketable debt. On December 31, 1943, the nonmarketable debt outstanding was \$36,574,000,000, or 22.2 per cent of the total interest-bearing debt. Its growth since 1935 is shown in Table I. The non-

TABLE I

TOTAL INTEREST-BEARING DEBT CLASSIFIED BY NONMARKETABLE, MARKETABLE, AND SPECIAL ISSUES*
(amounts in millions of dollars)

End of Month or Fiscal Year	Nonmarketable Issues		Marketable Issues		Special Issues		Total Interest-Bearing Debt	
	Amount	%	Amount	%	Amount	%	Amount	%
1935	\$ 62	.2	\$ 26,950	97.5	\$ 633	2.3	\$ 27,645	100
1936	1,261	3.8	31,102	94.3	626	1.9	32,989	100
1937	1,188	3.3	33,054	92.3	1,558	4.4	35,800	100
1938	1,556	4.3	32,344	88.4	2,676	7.3	36,576	100
1939	2,151	5.4	33,965	85.2	3,770	9.4	39,886	100
1940	3,166	7.5	34,436	81.2	4,775	11.3	42,376	100
1941	4,555	9.5	37,713	77.9	6,120	12.6	48,387	100
1942	13,510	18.8	50,573	70.2	7,885	11.0	71,968	100
1943	29,200	21.6	95,310	70.4	10,871	8.0	135,380	100
1943 July	30,169	21.5	98,613	70.3	11,456	8.2	140,238	100
Aug.	30,879	21.6	99,935	70.0	11,907	8.4	142,721	100
Sept.	33,910	21.6	111,426	70.9	11,717	7.5	157,053	100
Oct.	35,776	21.9	115,944	70.9	11,868	7.2	163,589	100
Nov.	36,595	22.2	115,909	70.3	12,278	7.5	164,781	100
Dec.	36,574	22.2	115,231	70.1	12,703	7.7	164,508	100

* Data taken from the *Bulletin of the Treasury Department*, September, 1943, p. 23; *Federal Reserve Bulletin*, January, 1944, p. 81; "Statement of the Public Debt, December 31, 1943," *Daily Statement of the United States Treasury*, January 1, 1944.

marketable issues are composed primarily of U. S. Savings bonds (series E, F, and G) and Treasury Tax Savings (Tax Anticipation) notes (series A, B, and C), but include, as well, depositary bonds and the adjusted service bonds of 1945.² The primary reason for selling non-

²The composition of the nonmarketable debt is as follows:

	Issues Outstanding (in millions of dollars)			
	June 30, 1943	%	Dec. 31, 1943	%
United States Savings bonds	\$21,256	72.8	\$27,363	74.8
Depositary bonds	226	.8	406	1.1
Adjusted Service bonds of 1945	222	.7	219	0.6
Treasury notes—Tax series A, B, C	7,495	25.7	8,586	23.5
Total nonmarketable issues	\$29,200	100.0	\$36,574	100.0

Data for June 30, 1943, taken from *Bulletin of the Treasury Department*, July, 1943, pp. 5, 45. Data for December 31, 1943, taken from "Statement of the Public Debt, December 31, 1943," *Daily Statement of the United States Treasury*, January 1, 1944.

TABLE II
TOTAL FUNDS RECEIVED FROM SALE OF UNITED STATES WAR SAVINGS BONDS AND
TAX ANTICIPATION NOTES: BY MONTHS*
(in millions of dollars)

Month and Year	War Savings Bonds ¹				Tax Anticipation Notes ²			
	Total	Series E	Series F	Series G	Total	Series A ³	Series B ³	Series C ³
1941								
May	\$ 349.8	\$ 100.6	\$ 37.8	\$ 211.4				
June	314.5	102.5	28.9	183.1				
July	342.1	145.3	27.4	169.5				
August	265.6	117.6	20.3	127.7	\$1,037.1	\$ 18.2	\$1,018.9	
September	232.3	105.2	18.1	109.0	305.9	7.8	298.1	
October	270.7	122.9	23.0	124.9	474.7	6.5	468.2	
November	233.5	109.5	19.0	105.0	319.8	4.2	315.6	
December	528.6	341.1	33.3	154.2	341.9	7.3	334.5	
Total	\$2,537.1	\$1,144.7	\$ 207.8	\$1,184.8	\$2,479.4	\$ 44.0	\$2,435.3	
1942								
January	1,060.6	667.4	77.6	315.6	237.8	4.7	233.1	
February	703.2	398.0	51.8	253.4	126.1	3.2	122.9	
March	557.9	337.6	41.1	179.2	234.8	5.3	229.5	
April	530.5	326.7	40.0	163.8	254.7	4.6	250.1	
May	634.4	421.8	42.5	170.1	399.3	5.2	394.1	
June	633.9	433.2	41.0	159.7	406.9	5.1	401.8	
July	900.9	508.1	73.7	319.1	388.2	6.0	382.2	
August	697.3	454.0	52.3	191.0	417.9	5.1	412.8	
September	754.7	509.9	60.8	184.0	977.9	52.6	82.1	\$ 843.2
October	935.0	664.8	60.6	209.6	941.1	54.7		886.4
November	734.6	541.6	44.8	148.2	781.6	33.5		748.1
December	1,014.2	725.8	66.0	222.4	1,312.3	86.0		1,226.3
Total	\$9,157.2	\$5,988.9	\$ 652.2	\$2,516.1	\$6,478.6	\$266.0	\$2,508.6	\$3,704.0
1943								
January	1,240.4	814.9	77.1	348.4	452.9	34.5		418.4
February	887.2	633.6	48.3	205.3	456.6	13.0		443.7
March	944.3	720.4	43.9	180.0	446.8	15.3		431.5
April	1,469.7	1,006.8	109.5	353.4	1,632.9	21.8		1,611.1
May	1,335.0	995.2	85.9	253.9	482.2	7.8		474.5
June	875.5	696.2	35.1	144.1	468.1	4.5		463.6
July	889.7	682.9	37.6	169.2	414.0			414.0
August	801.7	661.2	28.1	112.4	213.5			213.5
September	1,926.6	1,400.2	139.0	387.4	2,260.0			2,260.0
October	1,708.2	1,340.1	93.1	274.9	460.7			460.7
November	798.1	665.3	23.4	109.4	330.2			330.2
December	853.0	727.6	24.1	101.4	436.8			436.8
Total	\$13,729.4	\$10,344.4	\$ 745.1	\$2,639.8	\$ 8,054.7	\$ 96.9		\$ 7,958.0
Grand Total	\$25,423.7	\$17,478.0	\$1,605.1	\$6,340.7	\$17,012.7	\$406.9	\$4,943.9	\$11,662.0

* Less than \$50,000.

¹ Tabulated on basis of total funds received.

² Series A notes sold from August 1, 1941, through June 22, 1943.

³ Series B notes sold from August 1, 1941, through September 12, 1942.

⁴ Sale of series C notes commenced September 14, 1942.

⁵ Data taken from *Bulletin of the Treasury Department*, January, 1942, pp. 26-27; July, 1942, p. 37; January, 1943, pp. 39, 40, 47; September, 1943, pp. 32, 37, 38; October, 1943, pp. 42, 43, 48, 49; December, 1943, pp. 42, 48; *Daily Statement of the United States Treasury*, December 31, 1943.

marketable bonds to the general public was to avoid losses to investors such as befell subscribers to Liberty and Victory bonds—both during and after the last war.³ The problems raised by the nonmarketable debt mainly concern the redemption, funding, or exchange of War Savings

³ The present issues of War bonds, series E and F, are sold on a discount basis; the series G bond is a current income bond priced at par. The government has agreed to redeem these bonds at stipulated (or guaranteed) amounts in accordance with redemption tables printed on the face of the bonds. Series E bonds are redeemable any time after sixty days. Series F bonds are redeemable at par only if held to maturity, but may be redeemed at stated values after six months. Likewise Treasury Tax Savings notes will be accepted

bonds and, to a minor extent, the Tax notes. The other nonmarketable securities will not be considered in this discussion.

The sales of War bonds and Tax notes have steadily increased since their introduction in 1941. The monthly sales are shown in Table II. On December 31, 1943, the outstanding War bonds aggregated \$23,747,000,000 at current redemption values; Tax notes outstanding were \$8,599,000,000.⁴ These issues are in the nature of demand obligations a short time after their original purchase. In fact, they may be regarded as having some of the features of sixty-day or six-months paper. After the "days of grace," the government may be called upon to redeem the War Savings bonds any time before the ten-year maturity date. The Tax notes originally offered (series A and B) were to be used for tax payment within two years;⁵ the present notes (series C) are due three years from date of issue.⁶ In both cases, redemption is a current problem and after the war may become an even greater one.

War Savings bonds constitute a large share of the latent purchasing power to support the backlog of postwar consumer demands. The timing and rate of redemption for these bonds are problems with which the Treasury must reckon. Present redemptions have been steadily increasing both in absolute amounts and as a percentage of monthly sales, as shown in Table III. Redemptions have been affected by tax payments due, by the pressure to buy new bonds, by the need for cash to pay for goods purchased, by personal emergencies and other reasons—good and bad. The redemptions have not embarrassed Treasury financing, nor are they apt to have this result. Their most serious effect is in the pressure upon the price level.

One of the conspicuous arguments used in selling War bonds has

at par plus accrued interest in payment of federal income, gift, or estate taxes. They may also be redeemed for cash. At first Tax notes were interest-bearing only if presented in payment of taxes. Subsequently redemption provisions were relaxed. Series A notes, since June 22, 1943, have been redeemed for cash at the tax payment value current at time of presentation. Similar provision applies to series C notes six months after date of issue. Series B notes are redeemable for cash only at original purchase price. The Adjusted Service bonds, first issued in 1936, to discharge obligations to veterans of the last war, mature June 15, 1945, but are redeemable on demand at the option of the owner. The Depository bonds were issued by the Treasury to various depository and fiscal agents to provide partial reimbursement of costs incurred for the performance of fiscal functions, such as the payment of persons in the armed forces. In order to cover such expenses, the Treasury issued Depository bonds dated June 1, 1941, bearing interest at 2 per cent from date payment was received and to mature in twelve years, but redeemable at option of the United States, or depository, upon notice. The interest of these bonds constitutes compensation for depository service.

⁴*Bulletin of the Treasury Department*, January, 1944, pp. 34, 40. Figures given in Table II are on the basis of total funds received, thereby yielding a total for War bonds outstanding which is slightly less than \$23,747,000,000 by the amount of accrual redemption values. Series A-D bonds have been disregarded throughout, their sale having been discontinued in April, 1941. They enter into debt management problems, however, like other prewar debts.

⁵*Treasury Department Circular No. 667*, July 22, 1941.

⁶*Treasury Department Circular No. 696*, September 12, 1942.

TABLE III
REDEMPTIONS OF UNITED STATES WAR SAVINGS BONDS*
(amounts in millions of dollars)

Month and Year	Total Redemptions		Series E	Series F	Series G
	Amount	Per Cent of Sales	Amount	Amount	Amount
1941					
May	\$.6	.19	\$.5	\$.1	\$.5
June	.7	.20	.5	.1	.1
July	1.1	.42	1.0	—	.1
August	1.8	.78	1.7	.1	.1
September	2.4	.89	2.3	—	.1
October	3.2	1.37	2.5	.1	.5
November	4.0	.76	3.1	.2	.7
December					
Total	\$ 13.8	.54% ^b	\$ 11.1	\$.4	\$ 2.1
1942					
January	4.3	.41	2.9	.3	1.2
February	6.2	.89	4.5	.4	1.2
March	11.3	2.03	9.2	.4	1.7
April	11.9	2.24	9.9	.4	1.6
May	13.2	2.08	10.4	.5	2.3
June	14.9	2.35	12.0	.6	2.3
July	17.7	1.99	14.8	.5	2.5
August	23.2	3.33	19.0	.8	3.4
September	25.9	3.43	22.5	.6	2.8
October	32.2	3.45	28.1	.9	3.2
November	36.9	5.03	32.0	.7	4.1
December	47.9	4.73	43.8	.9	3.2
Total	\$ 245.6	2.68% ^b	\$ 209.1	\$ 7.0	\$ 29.5
1943					
January	55.5	4.48	49.7	1.6	4.2
February	69.4	7.82	62.7	1.7	5.0
March	123.6	13.09	116.6	1.8	5.2
April	95.4	6.49	87.7	1.8	5.9
May	97.5	7.30	86.5	2.8	8.2
June	134.8	15.40	125.1	2.8	6.9
July	131.4	14.77	120.1	2.8	8.5
August	144.9	18.07	134.0	3.5	7.4
September	148.5	7.71	136.8	2.7	9.0
October	137.5	8.05	125.1	3.3	9.1
November	164.4	20.60	149.7	5.1	9.7
December	200.9	23.55	186.2	4.8	9.8
Total	\$1,503.8	10.95% ^b	\$1,380.2	\$34.7	\$ 88.9
Grand Total	\$1,763.2	6.94% ^b	\$1,600.4	\$42.1	\$120.5

* Less than \$50,000.

^b Represents ratio of total redemptions to total funds received during period covered.

* Data taken from *Bulletin of the Treasury Department*, July, 1942, pp. 29-30; January, 1943, pp. 39-40; September, 1943, pp. 31-32; November, 1943, pp. 33-34; December, 1943, pp. 41-42.

been to stimulate present saving for postwar expenditure.⁷ The longer the war lasts, the greater will be the amount of that expenditure reserve. When the war ends, production dislocations are likely to be increased. During the reconversion period, when unemployment is probable, past liquid savings and unemployment benefits from the Social Security program will probably be utilized to make up for income shrinkages before savings bonds are redeemed. With the loss of overtime pay, cuts in hours of work, and more drastic economic losses in prospect, workers may regard their War bonds—with the fixed redemption values—as an emergency reserve. The psychology of the reconversion period will also tend to retard redemptions. Industry will be getting ready for civilian production—customary goods later will be more plentiful; new products, heralded by good-will advertising, will be expected to appear when reconversion is completed. The present scarcity of consumers durable goods, in large part, explains the volume of present savings, the success of consumer credit controls, and much debt reduction. These forces may be expected to remain operative until consumers goods are again more generally available. Considerable unemployment immediately after the war, continuing over months of industrial reconversion, might easily change such conditions. The government would then have to prepare itself to cash these bonds in larger amounts than ever before. Conditions will be aggravated if prices continue to rise. The higher they are the less the value of the postwar reserves in bonds.

In such a period of falling incomes it is unlikely that taxes can or should be increased, or that tax collections, even if drastic cuts in expenditures would take place immediately following an armistice, would be adequate to provide a surplus of cash for bond redemptions. The more likely possibility would be the redemption of War bonds from the proceeds of bank borrowing. This might be somewhat inflationary but would cushion the effects of sudden and widespread unemployment. To a large extent the increased redemptions during the period of industrial reconversion would be hardship cases—distress redemptions accompanying any decreases in employment or incomes. But new conditions would arise with the completion of the conversion process.

Coincident with the decrease in employment during reconversion will come the increased demand for capital by industry to finance re-

⁷"The more we save *now*, the more we'll have *after* the war—for emergencies, for education and travel, for a new automobile, refrigerator, or radio, for retirement, sudden illness or old age." Official Circular U. S. Treasury 2nd War Loan. Issued by U. S. Treasury War Finance Committee, War Savings Staff, Victory Fund Committee, Washington, D.C. In a similar circular for the 3rd War Loan, subscribers were told: "For a quicker victory, safer peace (free from inflation) and to provide the postwar comforts and luxuries you can't buy today, *sign up for your limit now.*" Issued by U. S. Treasury, War Finance Division, Washington, D. C.

tooling, conversions, and inventories necessitated by the readjustment of production. Advance bank credits have been arranged by many large concerns to cover such contingencies. The negotiation of "VT" loans by others is fast being arranged. Where possible, reserves are being set up by some corporations; many industries have purchased U. S. short-term obligations for just such uses. Their investments in savings bonds are small in the aggregate due to the limits on annual purchases.⁸ Consequently the need for funds to cover corporate or business redemptions of Savings bonds will be insignificant.⁹

Will the War bonds be presented for redemption when industry is prepared to sell consumer goods not now available? The answer would seem to depend, first of all, upon the levels of employment and the flow of money incomes prevailing at that time.¹⁰ If purchases from current earnings, with or without the resumption of installment selling, are adequate to take the goods off the market, it is doubtful if a large volume of War bond redemptions will take place. Liquid as are War bonds, the more liquid savings are apt to be spent first. This may hold even for those who purchased War bonds for the express purpose of acquiring specific goods after the war. The present direction and volume of spending surely will change when automobiles, refrigerators, radios, and similar goods are again offered for sale.

If expenditures from current earnings are not sufficient to take off the market the goods which American industry with its expanded productive capacity may offer for sale when reconversion is completed, prices will tend to fall so that reduced expenditures can take up the goods offered for sale. If a cost-price maladjustment exists, if wages fail to follow prices downward, falling prices will imply something less than what is regarded as "full employment." In such a situation Savings bonds may be redeemed to secure goods. These redemptions will help maintain industrial production and tend to prevent a recession in business activity. As a result of the expenditure of funds secured from bond redemptions, current earnings and employment may increase sufficiently to absorb the products of industry, thus stabilizing a business revival. On the other hand, when such redemptions (and purchases) have taken place, deflationary tendencies may reappear and

⁸ There is an annual limit of \$5,000 maturity value for ownership of series E bonds. Owners are annually limited to \$100,000 of series F and G bonds, or both combined. During the first three War Bond Drives out of \$6,457,000,000 subscriptions to series E, F, and G bonds, \$5,883,000,000 were issued to individuals, partnerships and personal trust accounts and only \$539,000,000 to "other corporations" a designation excluding banks and insurance companies. See *Bulletin of the Treasury Department*, January, 1943, p. 2; May, 1943, p. 3; October, 1943, p. 4. See also footnote 63, *infra*.

⁹ Sale of short-term issues in the reconversion period is discussed *infra*.

¹⁰ Cf., "Most of the goods purchased by consumers after the war will be paid for by the income earned in their productions and not by drawing on past savings." S. Morris Livingston, "War-Time Savings and Post-War Markets," *Survey of Current Business*, September, 1943, p. 12.

continue unless offset by new investment. What happens with respect to demand, with its increased effectiveness due to bond redemptions, is only one half of the story; the repercussions of increased demand on the supply side of the equation must also be considered.

The redemption of bonds will depend also upon the levels of taxation and other costs to the individual prevailing after the war. More precisely it will depend upon the surplus of spendable incomes, remaining after the payment of taxes, with which desired goods can be purchased. If available money-incomes are inadequate for personal expenditures, the backlog of purchasing power lodged in War bonds will probably be utilized in increased degree. The effects produced by personal expenditures will depend upon the method followed by the Treasury in securing funds for redemptions, which may be expansionary or deflationary, depending on the circumstances.

If its cash balance is drawn down rapidly by excessive redemptions, then the Treasury will be forced to borrow to make repayment. It is not the spread of redemption over time which creates serious management problems, but the volume at any one time which is difficult to handle. The problem is similar to that faced by the banks holding demand deposits. Such bank borrowing as would be necessary might have expansionary effects, enhanced even further if industry were also asking for additional bank credits. This would be true only if redemptions represented a net addition to purchasing power in a situation where current incomes were being fully spent or invested.

If the redemptions are small and spread over a number of years, it is possible that payment may be made from surplus revenues if a surplus exists. Redemptions, in that case, would be financed from tax payments. Certain issues might well be paid off in this manner even if the debt as a whole is not retired. Such a method would not be inflationary unless tax payments had been made primarily from bank loans and full employment had materialized.

It is, of course, possible that the Treasury could anticipate increases in redemptions and secure the necessary cash from loans by nonbank investors. During the reconversion period and immediately thereafter it is doubtful if the Treasury will find ready industrial buyers for its loans. It will have to depend primarily on loans from individuals. Its ability to substitute individuals for other borrowers may depend, in large part, on the interest rate offered. Appeals to patriotism in the postwar period will probably have little effect, and the longer the war is past the more operative purely economic forces become. This argues for the continued maintenance of large working balances in the General Fund of the Treasury. The more adequate these balances to cover sudden demands for funds—such as might come from bond redemptions

—the less will the Treasury need to depend on immediate bank loans and the less likely are its borrowings to be expansionary. The Treasury, then, has time to try to borrow from savers and other nonbank investors. In time of deflation the reverse argument holds. That part of the working balance derived from taxation should be small and reliance should be placed primarily on bank borrowing.

The exchange of Savings bonds for other securities with longer maturities or higher interest rates, or the refunding of Savings bonds as they mature, may be considered as means of reducing redemptions. The series E bonds accumulate at 2.9 per cent if held to maturity. The rates of F and G bonds are 2.53 and $2\frac{1}{2}$ per cent respectively; no other bonds from standpoint of yield are equally attractive.¹¹ The $2\frac{1}{2}$ % Treasury bonds were designed primarily for insurance companies;¹² the 2's have been sold to any investors, including commercial banks. The effective rate of interest on the entire public debt has been falling steadily and on September 30, 1943, was 1.956%.¹³ It may be doubted if the Treasury Department would favor the exchange of E, F, and G bonds for other securities with higher rates of interest unless market conditions, or the interest rate, changed materially. In any case, it is doubtful if such exchanges would appeal to many bondholders or produce a sufficient volume of exchanges to become a real possibility.

Redemption of Tax Notes. The redemption of tax notes can be more easily managed. The amount outstanding on December 31, 1943, was \$8,599,000,000.¹⁴ Sales through December, 1943, were \$17,013,000,000,¹⁵ of which \$7,995,200,000, or 47 per cent, had been used in payment of federal taxes. Redemptions for cash since September, 1941, have been \$349,600,000 (through December, 1943), or 2.05 per cent of sales. The details as to monthly redemptions are shown in Table IV.

Tax notes are purchased to facilitate tax payments. In return for interest rates of 1.92, 1.07, and .48 per cent per annum, taxpayers

¹¹ In the First War Loan Drive $2\frac{1}{2}$ % Treasury bonds of 1963-68 were offered to investors other than commercial banks; $1\frac{3}{4}$ % Treasury bonds due 1948 were offered to all investors, including commercial banks.

In the Second War Loan Drive $2\frac{1}{2}$ % Treasury bonds, dated April 15, 1943, due June 15, 1969, were offered to investors, except commercial banks. U. S. 2% Treasury bonds, dated April 15, 1943, due September 15, 1952, were offered to all investors.

In the Third War Loan Drive $2\frac{1}{2}$ % Treasury bonds of 1964-69 were offered to investors other than commercial banks; 2% Treasury bonds of 1951-53 were offered to all investors.

¹² The percentage of total subscriptions to $2\frac{1}{2}$ % bonds by insurance companies was as follows: First Drive, December, 1942, 48.3%; Second Drive, April, 1943, 42.1%; Third Drive, September, 1943, 42.0%. *Bulletin of the Treasury Department*, January, 1943, p. 2; May, 1943, p. 3; October, 1943, p. 4.

¹³ Rate on public debt and guaranteed obligations. Rate on guaranteed obligations slightly higher than on direct obligations. Combined rate, therefore, is most conservative comparison. Cf. *Bulletin of the Treasury Department*, October, 1943, p. 36.

¹⁴ *Bulletin of the Treasury Department*, January, 1944, p. 40.

¹⁵ See Table II, *supra*.

Year
and
Month

1941
Aug.
Sept.
Oct.
Nov.
Dec.

Total

1942
Jan.
Feb.
Mar.
Apr.
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.

Total

1943
Jan.
Feb.
Mar.
Apr.
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.

Total

Grand Total

* Less
b Rep
1 Incl
ing June
2 Series
3 Series
4 Series
5 See
6 Data
for the F
August,
1943, pp.

TABLE IV
REDEMPTIONS OF TREASURY SAVINGS (TAX ANTICIPATION) NOTES*
(amounts in millions of dollars)

Year and Month	All Series			Redemptions by Series			Per Cent Total Redemption to Total Sales ^b
	Total Redemptions ^c	Used in Payment of Taxes	Re-deemed for Cash	Series A ^d	Series B ^e	Series C ^f	
1941							
Aug.	\$.1	\$ —	\$.1	\$.1	\$.1	\$ —	
Sept.	.1	—	.1	.1	.1	—	
Oct.	1.0	—	1.0	1.0	1.0	—	.31
Nov.	7.3	—	7.3	7.2	7.2	—	2.14
Dec.							
Total	\$8.4	—	\$8.4	8.3	\$8.3	—	.34% ^b
1942							
Jan.	11.5	10.5	1.0	.3	11.2	—	4.84
Feb.	16.2	15.8	.3	1.0	15.2	—	12.85
Mar.	505.6	504.7	.9	10.8	494.8	—	215.33
Apr.	46.6	45.4	1.3	1.2	45.4	—	18.30
May	43.9	42.1	1.8	.3	43.6	—	11.00
June	492.1	485.2	6.9	3.7	488.4	—	120.94
July	46.1	44.8	1.2	.5	45.6	—	11.88
Aug.	35.3	29.4	5.8	.3	35.0	—	8.45
Sept.	580.1	527.3	4.1	5.0	575.1	—	59.33
Oct.	114.6	56.3	38.6	.5	113.7	.4	12.18
Nov.	42.6	37.8	4.9	.4	41.5	.8	5.45
Dec.	630.8	626.2	4.6	10.1	593.2	27.4	48.07
Total	\$2,565.4	\$2,425.5	\$ 71.4	\$ 34.1	\$2,502.7	\$ 28.6	39.60% ^b
1943							
Jan.	88.1	86.4	1.8	1.0	68.5	18.5	19.45
Feb.	80.7	78.8	2.0	2.5	52.8	25.5	17.68
Mar.	1,225.9	1,214.1	11.8	49.9	823.0	353.1	274.38
Apr.	196.0	176.6	19.5	12.3	93.4	90.3	12.00
May	101.8	97.0	4.8	.1	45.4	56.5	21.11
June	1,135.6	1,119.8	15.8	40.4	584.9	510.2	242.60
July	231.5	214.4	17.1	15.5	53.7	162.3	55.92
Aug.	127.1	99.2	27.9	3.7	23.2	100.2	59.54
Sept.	1,147.9	1,111.9	36.0	40.2	339.3	768.4	50.79
Oct.	204.2	181.6	22.6	7.2	27.2	169.9	44.32
Nov.	161.2	121.9	39.3	1.9	14.8	144.4	48.82
Dec.	1,139.5	1,068.3	71.2	29.6	178.0	931.8	260.87
Total	\$5,839.5	\$5,570.0	\$269.8	\$204.2	\$2,304.2	\$3,331.1	72.50% ^b
Grand Total	\$8,413.3	\$7,995.5	\$349.6	\$238.3	\$4,815.2	\$3,359.7	49.53% ^b

* Less than \$50,000.

^b Represents ratio of total redemptions to total sales for period covered.

^c Includes notes exchanged for new series (not shown in Annual Report for fiscal year ending June 30, 1942).

^d Series A notes sold from August 1, 1941, through June 22, 1943.

^e Series B notes sold from August 1, 1941, through September 12, 1943.

^f Series C—sales commenced September 14, 1943.

^g See Table II for Total Sales.

* Data taken from *Annual Report of the Secretary of the Treasury on the State of the Finances for the Fiscal Year Ended June 30, 1942*, pp. 572-573; *Bulletins of the Treasury Department*, August, 1943, pp. 40-41; October, 1943, pp. 48-49; November, 1943, pp. 39-40; December, 1943, pp. 47-48; *Daily Statement of the U.S. Treasury*, December 31, 1943.

have loaned the United States for various short terms,¹⁶ the sums they eventually intended to use in extinguishing tax liabilities.¹⁷ Irrespective of the interest rate, the convenience of achieving monthly tax payments in this manner would have caused substantial sales to be made. The crediting of interest to tax payments may have increased net borrowing a negligible amount. The same is true of redemptions for cash, but the cash redemptions are not likely to increase materially in the near future, even if tax levels were to be drastically reduced. The tax notes will be used primarily to extinguish the liabilities which induced their initial purchase.¹⁸ Such redemptions as must be financed will not be large and can be handled along with the rest of the nonmarketable debt without adding materially to the problems of the Treasury.

II. Management of Short-Term Debt

Prior to World War I, negotiable short-term debt obligations were issued on but six occasions: three were in time of war, three in time of monetary crises.¹⁹ Short-terms were widely used during the first World War and have been an outstanding feature of federal finance ever since.²⁰ They were conspicuous in financing the deficits of the thirties; they have become even more conspicuous for their part in covering the expenditures of World War II.²¹ Certificates of indebted-

¹⁶ Series A notes yielded approximately 1.92%; series E notes, .48%; series C, 1.07%. Cf. *Bulletin of the Treasury Department*, October, 1943, p. 49, footnotes 2, 3, and 4. The term for which money is loaned extends from date of purchase to date of surrender. Ordinarily this is equal to prepayment of taxes.

¹⁷ Note the steady but increasing purchase of Tax notes as shown in Table II and their use in payment of taxes in months when quarterly income tax payments are due, as shown in Table IV.

¹⁸ Of the Tax notes redeemed in calendar 1942, 94.5% were surrendered in payment of taxes. In the first nine months of 1943 of Tax notes redeemed, 96.8% were used in payment of taxes.

¹⁹ They were during the War of 1812, the crisis of 1837, the Mexican War of 1846, the panic of 1857, the Civil War and the crisis of 1907. For a brief description of these issues see Jacob Hollander, *War Borrowing* (New York, 1919), pp. 1-21. The first four issues, Hollander says, "developed from inability to sell long-term bonds in sufficient amount to meet pressing requirements in periods of impending war or acute monetary disturbance unrelieved by adequate banking facilities. Whatever effectiveness such expedients possessed was largely a consequence of their use not as formal borrowing devices, but . . . as fiat emissions for direct payment of public accounts." *Ibid.*, pp. 19-20. The issues during the Civil War he ascribes to Secretary Chase's opposition to long-term bonds and his reluctance to raise interest rates on government bonds to the rate prevailing in the money market. *Ibid.*, p. 20. The 1907 issues Hollander attributes to "a consequence less of depleted Treasury than of a rigid bond secured circulation, whereby an acutely strained credit market sought relief in otherwise unnecessary debt creation." *Ibid.*, p. 21.

²⁰ Similarly in England short-term borrowing was "the most important feature of war borrowing" and "was wholly the creation of the war." U. K. Hicks, *The Finance of British Government: 1920-1936* (London, 1938), p. 321.

²¹ Short-term debt has been variously defined to include or exclude issues up to five years maturity. Where securities with five-year maturities have been excluded they have usually been denominated as "intermediate securities." The writer prefers to exclude them from the classification of short-term debts. The Treasury notes now outstanding mainly have five-year maturities. They are of three types: regular series, national defense (war) series, and tax series. Certificates of indebtedness by law must mature within one year. Treasury bills are usually issued to mature in 91 days or thereabouts.

ness were the primary short-term security of the first World War;²² Treasury notes predominated in the short-term financing of the 1930 depression years; Treasury bills and certificates of indebtedness are both conspicuous in financing the present war.²³ Their importance as a constituent element in the interest-bearing public debt is shown in Table V.

Certificates of indebtedness were originally a wartime expedient designed both to tide the Treasury over temporary cash shortages arising in the interims between war loans and tax-payment dates, and to avoid undue strain on the money market.²⁴ They were offered quarterly, a time factor which produced a widely fluctuating working-cash balance, as well as increased interest. In 1929, the Treasury bill was introduced allegedly to correct these conditions and to enable the Treasury by more frequent borrowings to take advantage of favorable conditions in the money market.²⁵ The events of the succeeding depression, characterized by recurring deficits, and the desire for liquidity seem to have made Treasury bills a permanent feature of federal financing.²⁶ The volume of outstanding short-term obligations makes their management in the postwar years a major problem, crucial in its potential effects on the price level.

Three Management Problems. Short-term issues give rise to three management problems: (1) keeping them afloat is the recurrent or almost constant task of renewal; (2) if not renewed, the obligations must be funded or exchanged for a different type of security; (3) finally, of course, the possibility of repayment or the reduction of the amount outstanding always remains.

The customary prescription to cure the alleged evils of short-term borrowing is given as reduction and ultimate payment.²⁷ This is funda-

For detailed description of public debt issues outstanding see *Annual Report of the Secretary of the Treasury*, 1942, pp. 486-506.

²² See Hollander, *op. cit.*, chs. II-VI.

²³ The special issues, which are also shown on Table V, are comprised for the most part of notes and certificates. They constitute forms of interfund borrowing and the special problems they present will not be considered in this paper.

²⁴ Cf. Hollander, *op. cit.*, pp. 110-123; Edward R. Van Sant, *The Floating Debt of the Federal Government, 1919-1936* (Baltimore, 1937), p. 14. There was no expectation "at that time, that certificates would become a permanent instrument in Treasury financing," p. 31.

²⁵ Van Sant, *op. cit.*, pp. 43-46. For a critical analysis of the advantage of bills over certificates see pp. 48-49.

²⁶ So successful did bills prove that the issuance of certificates of indebtedness was discontinued between 1935 and 1941. See Table V, *supra*.

²⁷ See, for example, Van Sant, *op. cit.*, p. 10, and authorities cited. The Colwyn Committee suggested "the desirability of a steady gradual reduction." *Report of the Committee on National Debt and Taxation*, presented to Parliament by Command of His Majesty (London, 1927), p. 36. The Committee on Government Credit of the Twentieth Century Fund, reporting in 1937, recommended "that the Treasury refunding program be continued with the alternate aim of reestablishing approximately the relation between long-term, medium-term and short-term securities which existed prior to the depression. . . ."

TABLE V
COMPOSITION OF INTEREST-BEARING PUBLIC DEBT, 1916-43*

Fiscal Year Ending June 30	Amounts in Millions of Dollars ¹					Percentage Composition of Interest-Bearing Public Debt							Fiscal Year Ending June 30
	Bonds	Notes	Certificates of Indebtedness	Treasury Bills	Special Issues to Govt. Agencies & Trust Funds	Total Interest- Bearing Debt	Bonds	Notes	Certificates of Indebtedness	Treasury Bills	Special Issues to Govt. Agencies & Trust Funds	Total Interest- Bearing Debt	
1916	\$ 967	\$ 4	\$ 273		\$	\$ 972	99.5%	.4%	10.1%			100.0%	1916
1917	2,412	27	1,706			2,713	88.9	1.0	14.2			100.0	1917
1918	9,911	369	3,724			11,986	82.7	3.1	14.2			100.0	1918
1919	17,188	4,422	3,624			25,234	68.1	17.5	14.4			100.0	1919
1920	16,218	5,074	2,769			24,061	67.4	21.1	11.5			100.0	1920
1921	16,119	4,919	2,699			23,737	67.9	20.7	11.4			100.0	1921
1922	15,065	4,917	1,829			22,711	70.3	21.6	8.1			100.0	1922
1923	16,535	4,441	1,031			22,008	75.1	20.2	4.7			100.0	1923
1924	16,025	4,149	1,808			20,982	76.4	19.8	3.8			100.0	1924
1925	16,842	2,740	533		95	20,211	83.3	13.6	2.6		.5%	100.0	1925
1926	16,928	1,799	453		204	19,384	87.3	9.3	2.3		1.1	100.0	1926
1927	15,220	1,986	686		339	18,251	83.4	10.9	3.7		2.0	100.0	1927
1928	13,021	2,582	1,252		462	17,318	75.2	14.9	7.2		2.7	100.0	1928
1929	12,125	2,267	1,640		607	16,639	72.9	13.6	9.9		3.6	100.0	1929
1930	12,111	1,626	1,264	156	764	15,922	76.1	10.2	7.9	1.0%	4.8	100.0	1930
1931	13,531	452	1,802	445	291	16,520	81.9	2.7	10.9	2.7	1.8	100.0	1931
1932	14,250	1,261	2,726	616	309	19,161	74.4	6.6	14.2	3.2	1.6	100.0	1932
1933	14,223	4,548	2,108	954	323	22,158	64.2	20.5	9.5	4.3	1.5	100.0	1933
1934	16,510	6,653	1,517	1,404	396	26,480	62.4	25.1	5.7	5.3	1.5	100.0	1934
1935	14,936	10,023	1,517	2,053	633	27,645	54.0	36.3		7.4	2.3	100.0	1935
1936	18,629	11,381	2,354	2,354	626	32,989	56.4	34.5		7.1	1.9	100.0	1936
1937	21,322	10,617	2,303	2,303	1,558	35,800	59.5	29.7		6.4	4.3	100.0	1937
1938	23,599	9,147	1,154	1,154	2,676	36,576	64.5	25.0		3.2	7.3	100.0	1938
1939	27,565	7,243	1,308	1,308	3,770	39,886	69.1	18.2		3.3	9.5	100.0	1939
1940	29,917	6,383	1,302	1,302	4,775	42,376	70.6	15.1		3.1	11.3	100.0	1940
1941	34,966	5,658	1,603	1,603	6,120	48,387	72.2	11.8		3.3	12.6	100.0	1941
1942	48,777	9,704	2,508	2,508	7,885	71,968	67.8	13.5	4.3	3.5	11.0	100.0	1942
1943	79,420	16,663	16,561	11,864	10,871	135,380	58.6	12.3	12.2	8.8	8.0	100.0	1943

* Excludes fully guaranteed interest-bearing securities.

¹ Data taken from *Annual Report of the Secretary of the Treasury on the State of the Finances for the Fiscal Year Ended June 30, 1942*, p. 511, and *Statistical Abstract of the United States, 1941*, p. 230; 1937, p. 200; 1929, p. 213. Figures will not necessarily add up to totals, due to rounding.

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mentally a tax problem or the conversion of other assets to debt reduction. Just as short-term borrowing has been called a "fair weather program," so is reduction or repayment, as distinguished from funding or exchange,²⁸ a "fair weather program"—one for periods punctuated with recurrent budgetary surpluses. The three principal arguments for the reduction of short-term debt are the task of renewal, the uncertainty of renewal in time of crisis, and the danger of inflation.

TABLE VI
HOLDINGS OF U. S. GOVERNMENT SECURITIES BY MEMBER BANKS OF THE
FEDERAL RESERVE SYSTEM*
(in millions of dollars)

Year Ending June 30 ¹	Total	Types of Securities				
		Treasury Bills	Certifi- cates of Indebted- ness	Notes	Bonds	Guaranteed Obligations
June 29, 1929	\$4,155	\$ 107 ²	\$ 339	\$ 704	\$ 3,005	\$ —
June 30, 1930	4,061	4 ²	254	463	3,340	—
June 30, 1931	5,343	263	638	403	4,039	—
June 30, 1932	5,628	187	775	503	4,163	—
June 30, 1933	6,887	554	559	2,049	3,725	—
June 30, 1934	9,137	791	637	2,871	4,838	—
June 29, 1935	11,430	1,099	—	4,314	4,458	1,558
June 30, 1936	13,672	1,266	—	5,161	5,295	1,950
June 30, 1937	12,689	821	—	4,361	5,689	1,819
June 30, 1938	12,343	316	—	3,653	6,246	2,128
June 29, 1939	13,777	441	—	2,720	7,786	2,831
June 29, 1940	14,722	797	—	2,543	8,261	3,121
June 30, 1941	18,078	1,127	—	2,631	10,481	3,839
June 30, 1942	24,098	1,509	1,872	3,546	14,485	2,685
June 30, 1943	46,980	6,278	9,418	5,251	23,545	2,487

¹ June 29, 1929, 1935, 1939, 1940.

² Described as "all other."

* Source: Board of Governors of the Federal Reserve System: *Member Bank Call Reports*. Amounts will not necessarily add to totals due to rounding.

Weekly issues of bills since July, 1941,²⁹ six to eight issues of certificates in each of the last two years, and ten issues of notes since the war began,³⁰ make renewal a constant problem. As to this, the Treasury

Increasing the proportion of long-term securities would enable the banks to dispose of some of their present heavy holdings of Government securities and would thus decrease the pressure for bank credit expansion. Refunding operations should be designed to shift a large portion of the outstanding debt into the hands of genuine investors, thus affording the Treasury more leeway in case it again becomes necessary to resort to large-scale borrowing through the sale of short-term obligations to banks." *The National Debt and Government Credit*, Twentieth Century Fund, Inc. (New York, 1937), p. 156.

²⁹ Van Sant, *op. cit.*, p. 42.

³⁰ For details of issues see *Bulletins of Treasury Department*, January, 1941, to date.

³¹ The offerings of marketable issues of certificates of indebtedness and Treasury notes from July 1, 1940, through December 1, 1943, have been as follows:*

cannot complain; it is the result of Treasury programs and policies. Renewal could have been avoided, or made more infrequent, by stiffer tax policies and different borrowing programs, for which failures the Treasury and Congress must accept primary responsibility.

The real basis of objection to the frequency of renewing short-terms is the increased exposure to crises. It is hard to conceive of any crisis in the United States which might prevent the renewal of short-term debts. There is plenty of reserve taxing power; the banking system is highly developed; there seems to be little likelihood of a flight of capital from the country. Even a repetition of the banking holiday of 1933, when short-term loans were hard to secure, while not impossible, does not appear to be likely. Any such disability in view of the credit standing of the federal government would be temporary. Such disturbances as the "alarmists" have in mind would not be confined to short-terms—all credit, public and private, long and short, would be shattered.

Large volumes of short-terms mean increased dependence upon banks for funds. The growth in bank holdings of government securities is shown in Tables VI and VIII. On June 30, 1943, the member banks held 53 per cent of the Treasury bills outstanding, 57 per cent of the certificates, and 57 per cent of the notes. The Treasury is at present dependent upon banks for the continuous renewal of those funds. Should the banks become reluctant to renew, the Treasury might be seriously inconvenienced; should a financial crisis occur during an impending renewal, a high price might have to be paid for temporary funds.³¹ Some nations with exhausted taxing powers have gone through

MARKETABLE ISSUES

Certificates of Indebtedness		Treasury Notes	
Date of Issue	Amounts in Millions	Date of Issue	Amounts in Millions
4/15/42	\$1,507	12/19/40	\$ 531
6/25/42	1,588	1/31/41	635
8/15/42	1,609	3/15/41	32
9/21/42	1,506	3/15/41*	33
11/2/42	2,035	3/15/41*	1
12/1/42	3,800	11/1/41	503
2/1/43	2,211	6/5/42	1,118
4/15/43	5,251	9/25/42	1,606
5/1/43	1,655	6/5/43*	2,142
8/2/43	2,545	7/12/43	2,707
9/15/43	4,122 ^p		
10/15/43	3,516 ^p		
12/1/43	3,540 ^p		

* Additional offerings at par of security already outstanding.

^p Preliminary.

* *Bulletin of the Treasury Department*, November, 1943, p. 31; December, 1943, p. 38.

³¹ Cf. *Report of the Committee on National Debt and Taxation*, Presented to Parliament by Command of His Majesty, London, 1927 (Colwyn Committee Report), p. 35:

TABLE VII
FEDERAL RESERVE BANK HOLDINGS OF U. S. GOVERNMENT SECURITIES,
DIRECT AND FULLY GUARANTEED*
(in millions of dollars)

Date	Total	Type of Security			
		Treasury Bills	Certificates of Indebtedness	Notes	Bonds
June 30, 1916	\$ 57	\$ —	\$ —	\$ 4	\$ 53
June 30, 1917	66	—	6	24	36
June 29, 1918	255	—	194	19	42
June 27, 1919	231	—	204	—	27
June 2, 1920	336	—	309	—	27
June 30, 1921	250	—	216	—	35 ¹
June 28, 1922	557	—	332	—	225 ¹
July 3, 1923	95	—	5	—	90 ¹
July 2, 1924	436	—	94	321	21
July 1, 1925	354	—	36	250	68
June 30, 1926	385	—	71	232	82
June 30, 1927	376	—	126	84	166
June 27, 1928	212	—	66	88	58
July 3, 1929	141	—	12	86	43
June 30, 1930	591	—	298 ²	238	55
June 30, 1931	668	—	415 ²	61	192
June 29, 1932	1,784	—	1,076 ²	270	438
July 3, 1933	2,028	—	858 ²	728	441
June 30, 1934	2,432	—	742 ²	1,222	468
July 1, 1935	2,430	620	—	1,494	316
June 30, 1936	2,430	609	—	1,497	325
June 30, 1937	2,526	623	—	1,171	733
June 29, 1938	2,564	654	—	1,165	744
June 28, 1939	2,550	463	—	1,176	911
July 3, 1940	2,450	—	—	1,127	1,323
July 2, 1941	2,184	—	—	820	1,364
July 1, 1942	2,724	319	73	714	1,618
June 30, 1943	7,202	3,815	1,092	797	1,498
Jan. 5, 1944	11,650	6,863	2,477	678	1,633

¹ Notes and bonds combined.

² Certificates and bills combined.

* Data taken: *Federal Reserve Bulletin*; January 5, 1944, secured from Federal Reserve Bank of Chicago. Amounts will not necessarily add to totals due to rounding.

times when no funds whatever could be borrowed. At such times there is a potential danger that short-term obligations may be used as currency,³² or that paper money may be printed to meet the exigency.³³

"As Sir Otto Niemeyer pointed out, the state is in the hands of the holders of bills, who have a purely one-sided option to renew or not: if it is not convenient to those holders to renew, the Treasury has either to take a lower price, having reactions all around on the rate of interest, or adopt the alternative of borrowing on Ways and Means."

³² *Ibid.*, pp. 34-35; Hollander, *op. cit.*, p. 73.

³³ *Ibid.*

TABLE VIII
OWNERSHIP OF UNITED STATES GOVERNMENT SECURITIES, DIRECT AND FULLY GUARANTEED*
(in millions of dollars)

Fiscal Year Ending June 30	Held by Federal Agencies and Trust Funds				Held by Federal Reserve Banks	Privately Held†				Other Investors		
	Special Issues		Public Issues			Total	Member Banks	Other Commercial Banks	Mutual Savings Banks	Insurance Companies	Marketable Issues	Nonmarket- able Issues
	\$	\$	\$	\$								
1916	\$ 972		\$ 2		\$ 57	\$ 913	\$ 703	\$ 50	\$ 10	\$	\$ 200	\$
1917	2,713		2		66	2,645	1,065	480	100		1,000	
1918	11,986		53		285	11,678	2,465	750	300		8,200	
1919	25,234		149		24,793	24,793	3,803	1,340	670		19,000	
1920	24,061		207		341	23,513	2,811	940	840		18,900	
1921	23,737		349		259	23,129	2,561	830	950		18,800	
1922	22,711		422		585	21,734	3,205	780	1,010		16,700	
1923	22,008		412		102	21,494	3,835	870	1,120		15,700	
1924	20,982		386		431	20,165	3,575	860	1,160		14,600	
1925	20,211	95	421		353	19,342	3,780	850	1,130		13,600	
1926	19,384	204	422		385	18,373	3,745	810	960		12,900	
1927	18,251	359	369		370	17,153	3,796	800	810		11,700	
1928	17,318	462	359		235	16,262	4,225	940	720		10,400	
1929	16,639	607	277		216	15,539	4,155	790	560		10,000	
1930	15,922	764	208		591	14,359	4,061	920	520		8,900	
1931	16,520	291	144		668	15,417	5,343	670	650		8,800	
1932	19,161	309	261		1,068	16,807	5,628	590	680	800	9,100	
1933	22,158	323	366		1,368	18,471	6,887	590	720	1,000	10,300	
1934	27,161	396	1,055		2,432	23,278	9,413	800	970	1,500	10,500	
1935	31,768	633	1,365		2,433	27,337	11,409	1,290	1,540	2,600	10,400	100
1936	37,707	626	1,703		2,430	32,948	13,671	1,600	2,050	3,900	10,500	1,200
1937	40,465	1,558	2,036		2,526	34,348	12,689	1,870	2,390	5,000	11,300	1,100
1938	41,429	2,676	2,123		2,564	34,066	12,343	1,700	2,690	5,200	10,700	1,400
1939	45,336	3,770	2,138		2,551	36,877	13,777	1,920	3,040	5,800	10,900	1,900
1940	47,874	4,775	2,951		2,466	38,338	14,722	1,828	3,110	6,500	9,400	2,800
1941	54,747	6,120	2,362		2,184	44,081	18,078	2,022	3,430	7,000	9,400	4,200
1942	76,517	7,885	2,726		2,645	63,261	24,098	2,292	3,890	8,900	11,100	13,000
1943	139,472	10,871	3,440		7,202	117,959	46,980	5,480	5,290	12,800	19,000	28,400

† Figures for commercial banks and mutual savings banks have been rounded to nearest 10 million dollars and for insurance companies and other investors to nearest 100 million.
‡ Before 1933 insurance companies included in "Other Investors."
§ Source: *Federal Reserve Bulletin*, December, 1943, p. 1176; July, 1941, p. 664.

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It seems farfetched to apply such conditions to the United States in the predictable future. The willingness of the banks to renew short-term paper is affected by all factors—domestic and foreign—influencing bank deposits and the alternative uses of funds.³⁴ Most of the short-term loans owned by banks were acquired by the extension of deposit credits. Hollander called attention to this fact and its inflationary consequences in connection with the certificates of indebtedness issued during 1917-18.³⁵ After the war the payment of certificates by bank credits continued and prevails today for new issues. These credits represent net additions to purchasing power, but the same result would be produced in even greater degree by direct loans from the Federal Reserve banks to which the Treasury may be forced if member banks are reluctant to extend credit. Although the inflationary propensities of short-term borrowing are usually considered their greatest economic shortcoming, during the recent depression, short-terms—especially bills—were employed by the Treasury chiefly because of their expansionary propensities. That this tendency is not more operative now is due to controls established and the lack of certain goods, as well as to other factors. Whether this will continue to be true during the postwar years when consumers goods are more generally available and when the demand for private credit returns remains to be seen.

In the reconversion period after the war the revival of the demand for industrial loans and the possibility of increased profits from these loans may increase the resistance of banks to the renewal of short-terms, unless they increase their borrowings from the central banks. Otherwise, their resources may not be sufficient to permit them to maintain both their industrial loans and their investments in "governments." This may become more of a necessity when customers desirous of making investments in plant and equipment sell their short-terms to the banks. Another possibility is the sale of bills, then certificates, on the open market. While banks and private holders may each be willing to hold short-terms at different times in the cycle, there would seem, on the whole, to be a general move out of short-term debt during prosperity and in again during depression,³⁶ making open-market activity on the part of the Reserve banks almost inevitable.³⁷

³⁴ Cf. "... the renewal of bills may be affected by any event, either in this country or abroad, which leads to the withdrawal of balances from London." Colwyn Committee Report, *op. cit.*, p. 35.

³⁵ Hollander, *op. cit.*, pp. 14, 65, 157 ff.

³⁶ Cf., "In the absence of information covering total holdings of the different forms of debt, it is not possible to say just what form the cyclical movement in and out of debt will take, more particularly as a slight change in conditions may cause a very considerable shift in demands. . . . Common-sense observation would suggest, however, that the sequence is somewhat as follows: In the early stage of recovery, firms and dealers tend to substitute cash for their debt holdings in order to spend it on goods. At this point the

As has actually transpired, Federal Reserve bank holdings of short-term debt have grown throughout the war in order to provide member banks with sufficient reserves to purchase U. S. obligations.³⁸ This is shown in Table VII. Should private investment opportunities revive after this war, short-term debt, even more than at present, will tend to be turned over to the Federal Reserve banks to hold until maturity.³⁹

In considering the sequence of liquidation of U. S. securities, certificates of indebtedness, due to their higher yield, will be held longer than bills, but sooner or later more of them will be sold in the open market to enable financial institutions to take advantage of higher rates offered by other borrowers. If the volume of certificates sold becomes large enough, the volume of distress selling may necessitate either greatly enlarged open-market support or the purchase of certificates directly by the Reserve banks on a basis similar to that now prevailing for bills. If interest rates rise, renewals may be secured only by higher interest payments, or by shifts into maturities which indirectly may be regarded as the equivalent. This may even require funding of short-terms into notes or bonds, though it must be recognized that in view of aggregate interest costs the Treasury will endeavor to keep interest rates low as long as possible.⁴⁰ From the point of view of interest, the Treasury will tend to renew its short-terms so long as the interest differential is in its favor. Sound policy, however, depends not only upon a calculation of costs at the time and probabilities for the future, but also upon the phase of the business cycle. Large quantities of money substitutes in a time of boom, while less expensive than long-term instruments, may in terms of economic effects prove more costly. Moreover, changes in the financial costs of short-term borrowing—that is, the possibility

banks will probably be glad to increase their holdings, at least of bills, in anticipation of coming demands upon them. But during the whole upswing and boom, they must preserve sufficient liquidity to be in a position to lend freely. In the next stage, industry will be unable to finance further expansion without new funds—in the first place, no doubt, bank advances, followed perhaps by new issues. Later still they will begin to build up reserves again. Some of these will be in a liquid form suitable for repaying bank advances (particularly as soon as market rates fall). The rest may be invested in longer term gilt-edged. Thus there is a certain tendency for demands of different lenders to cancel out. But as a whole this is overshadowed by the general move out of Government debt in boom, and again in depression." U. K. Hicks, *op. cit.*, p. 331.

³⁸ See also discussion under III, "Maintaining Bond Price," *infra*.

³⁹ Cf. *Federal Reserve Bulletin*, November, 1943, pp. 1055-1056; *Monthly Review of Credit and Business Conditions*, Federal Reserve Bank of New York, Vol. 25, No. 11, p. 85 (November, 1943).

⁴⁰ Compare, for example, what has been taking place in connection with Treasury bills. On December 29, 1943, \$6,906,000,000 of Treasury bills were owned by the Federal Reserve banks. However, \$4,278,000,000 were held under repurchase options, some of which will be exercised. Data as to unexercised repurchase options maturing in possession of banks are not available. Data secured from Federal Reserve Bank of Chicago.

⁴¹ At various places debt management is discussed under the assumption that interest rates in the future will increase. This is not intended as a prediction, nor advocated as a matter of policy. The issue is raised for purposes of discussion.

of increased short-term rates—as well as violent fluctuations in those rates cannot be ruled out of account.

If, in the postwar period, the Federal Reserve System should attempt to control inflation by raising its loan and discount rates, it is doubtful whether the financial institutions would renew their subscriptions to the maturing bills and certificates while indebted to the Reserve banks. Under such an hypothesis, as applied to England, Pigou suggested that the Treasury “would have to borrow on Ways and Means and flood the banks with money got out of those Ways and Means so that the Bank of England would not be able to enforce its high rate in the market.”⁴¹ It is hardly likely that the U. S. Treasury would be able to maintain a low rate of interest on its obligations by such methods as these if high rates were being utilized contemporaneously to reduce the danger of inflation. The Treasury would probably insist on other controls, such as heavier taxes and selective credit restrictions, before accepting increased interest rates as an anti-inflationary device. The higher rates might too easily affect the cost of carrying the outstanding debt. In any case, unless member banks were substantially indebted to the Reserve banks, a condition which is now exceptional,⁴² increases in loan and discount rates would have little effect as an anti-inflation measure.

Inasmuch as short-term obligations are distributed among member banks, the Federal Reserve banks and many private holders, the question may be raised as to whether it is appropriate for the Treasury to pay off one set of holders before others, either by the application of revenue surpluses or by funding operations. Or, should the Treasury determine its policy simply with reference to bills and certificates, regardless of who holds them? Interest in economic effects would suggest that both be considered. For the sake of simplicity of discussion, let us assume that the Treasury has ample funds *from taxes* to carry out whatever operations are selected.

It might be argued that the Treasury should first retire the holdings of individuals and private institutions before paying off the Reserve banks. The Treasury might look upon the Reserve bank holdings as an inter-fund obligation to be allowed to float at the convenience of the Treasury on the payment of the market rate, or whatever interest the Reserve System needed to cover its expenses and the accumulation of necessary reserves. The Treasury would not need to worry about the renewals or the state of the market; carrying costs could be met as expense money was needed. This is not very different from the situation under which the Treasury sells its issues first to private subscribers

⁴¹ *Minutes of Evidence*, before Colwyn Committee, Vol. 1, p. 54, par. 729.

⁴² See *infra* (footnote 66).

who, in turn, place them on the open market for purchase by the Federal Reserve banks. The clamor against direct loans in the first instance is none too logical. Apart from the interference with underwriters' profits, brokers' commissions, "free riding" and the payment of interest instead of costs, the main objections are directed at the possibility of "undue" credit expansion and the uncertainty of debt repayment once the counter pressures from banks and private lenders are removed. The greater liquidity which present practices assure to commercial banks seems to outweigh the convenience of alternative arrangements of the Treasury. Besides, other arrangements run counter to the mythology of banking practice as well as public finance.

But what are the real consequences of first retiring the short-term obligations held outside of the Reserve System? What happens depends upon the amount of the retirements and the source of funds. It has been assumed that revenue surpluses will provide the funds for payment. If the debt retired is held by nonbankers, there is no effect whatever on the banks. If the short-terms held by member banks are retired, member bank reserves, which had been reduced by the tax payments, would be restored to their original level, assuming that taxes and debt repayments are equal. Deposit liabilities reduced by tax payments are not restored by debt repayment. Therefore, the excess reserve position of member banks is improved.

If the Treasury paid off the Federal Reserve holdings of short-terms with the proceeds of taxation, there would be no restoration of member bank reserves which had been initially reduced by tax payments. What will happen is simply the reduction of the account of the Treasury by the amount of debt repayment. The excess reserves of member banks will not be reduced by an amount precisely corresponding to their loss of reserves since their deposit liabilities have likewise declined.

The question as to whose holdings of short-terms should be retired first—those of the Federal Reserve banks or those of the member banks—must be answered so that the method selected is in harmony with the cyclical objectives of the tax policy pursued. If the tax structure is designed to discourage expansion, then tax revenues should be employed to retire the holdings of the Reserve banks. If taxes are levied and collected so as to have a minimum effect on expansion, then the holdings of member banks should be retired. The unresponsiveness of the banking system to changes in its reserve position in the past suggests that the method of retirement of the debt may not rank with the source of funds as a cyclical measure.

In the previous discussion, the source of funds has been assumed to be taxation. Under the assumption that the source is nonbank loans, effects on deposits and reserves are quite similar. Borrowing as a fiscal weapon, however, is less deflationary than taxation.

Short-terms now mature with such frequency that the Treasury can, if it desires, effect debt reduction at almost any time in whatever manner is preferable or most convenient. During the twenties, federal debt reduction was accomplished mainly by retiring short-term issues.⁴³ The maturities of the future offer even greater opportunity. Treasury surpluses will determine reductions; the interest rates will probably determine the funding, refunding, or exchange operations—even the choice of securities.

Without knowing actual conditions or assuming hypothetical cases, it cannot be said whether funding would substantially change the holders of the debt or merely give the same group of owners securities with different rates and maturities. It is hard to imagine much change in total bank holdings, the national debt having attained its present magnitude, short of payment by taxation. Among the other financial institutions shifts may occur. The holdings of the Reserve banks may increase but probably more as the result of open-market purchase than of direct subscription on the occasion of funding or refunding.

Finally, there is little reason to believe that sudden reduction in the amount of the short-term debt will be effected. It seems probable that in the attempt to keep interest costs low, the short-term holdings of the Reserve banks may be renewed repeatedly for some years, but the management of these instruments will be a continuing problem in the future.

III. *Maintaining Bond Prices*

The problem of maintaining the market raises the question as to whether the government should attempt to keep the price of its bonds in the open market from falling below par. And, if so, by what means shall this be done? Sometimes the "par" standard is not adopted but the government seeks to prevent precipitate decreases in the price of its bonds, or to minimize declines from the wholesale liquidation of securities.⁴⁴ Ordinarily "maintaining the market" has not referred to reducing the price of securities when the market is above par. If that condition continues for a time the Treasury will doubtless attempt conversions at lower interest rates. Seldom has the government been interested in preventing a rise in the price of its debt obligations unless the increases are the result of speculation. With respect to price changes, the monetary authorities have what are perhaps broader interests. The Federal Reserve banks buy and sell government securities to affect excess reserves and the credit operations of member banks.⁴⁵ The

⁴³ Van Sant, *op. cit.*, pp. 36-40.

⁴⁴ In general, "maintaining the market" does not refer to renewal, refunding or payment, although each of these may affect the price of outstanding bonds, but to the techniques of keeping the market price of securities from falling below par.

⁴⁵ Cf. John H. Williams, "The Implication of Fiscal Policy for Monetary Policy and the Banking System," *American Economic Review*, March Supplement, 1942, p. 246.

price of governments per se is of secondary concern in monetary policy. But neither the Treasury nor the Federal Reserve System is indifferent to the economic effects produced by changes in the price of government bonds. The Treasury is, perhaps, more interested in the effects upon future financing than in the revaluation of outstanding securities. The Reserve banks are chiefly concerned with the monetary effects of the price changes; the Treasury may be similarly concerned. But the larger the debt and the more it is financed through the banks the less effective are the customary monetary controls.⁴⁶ Yet, as banks supply ever increasing sums to the government, the more the Treasury must concern itself with the effect of price changes in its securities held by the banks and other institutions. This concern seems to be essentially cyclical in character—a matter to worry about during credit stringencies or booms.⁴⁷

Those who may be affected by changes in the market prices of U. S. securities are the various classes of holders shown in Table VIII. The holdings of federal agencies and trust funds may be disregarded. These are in the nature of interfund loans; some of them, such as the retirement fund investments, are made for the sake of the yields under conditions where the market value of the investment at any one moment is unimportant. Price maintenance does not arise with respect to the nonmarketable debt,⁴⁸ and in the case of short-terms is generally disregarded. This will reduce considerably the potential effects of price changes upon various holders of public debt.⁴⁹ Nevertheless, the bulk of intermediate and long-term marketable issues is held by financial institutions with varying degrees of interest in the price of securities. It is from these holders that the demand for stabilizing bond prices emanates. In case of the marketable debt there has been a substantial increase in the number of holders whose psychological reactions may be

⁴⁶ *Ibid.*, p. 240.

⁴⁷ Morton has said that "marketability" is a fair weather standard, to be abandoned in a crisis. Walter A. Morton, "Liquidity and Solvency," *American Economic Review*, June, 1939, p. 278.

⁴⁸ Especially U. S. War Savings bonds, series E.

⁴⁹ After deducting holdings of special issues by federal agencies and nonmarketable issues held by "other investors," the percentage distribution of ownership of interest-bearing public debt for 1943 was as follows:

Federal agencies (public issues)	3.4%
Federal Reserve banks	7.2
Member banks	46.9
Other commercial banks	5.5
Mutual savings banks	5.3
Insurance companies	12.8
Other investors	18.9
	100.0%

The relative importance of holdings of commercial banks is modified, of course, by their large holdings of short-terms.

adversely affected by falling prices of government bonds. Should scares among them develop, there are more sheep to follow the leader. This fact might introduce somewhat wider fluctuations in prices than if the debt were distributed among a smaller number of holders. Moreover, the potential effects of selling by psychologically impressionable masses become greater as the debt and the number of holders increase.⁶⁰ What would bring about the selling of bonds by individual holders

TABLE IX

RATIO OF BOND HOLDINGS TO TOTAL LOANS AND INVESTMENTS OF ALL MEMBER BANKS IN
FEDERAL RESERVE SYSTEM

June 30, 1928, to June 30, 1943*

(amounts in millions of dollars)

Date	U. S. Government Bonds Direct and Guaranteed		Other Bonds		Total Bonds		Total Loans and Investments	
	Amount	Per Cent of Total	Amount	Per Cent of Total	Amount	Per Cent of Total	Amount	Per Cent of Total
1928	\$ 3,212	9.2%	\$4,462	12.7%	\$ 7,674	21.9%	\$35,061	100.0%
1929	3,005	8.4	4,861	13.6	7,866	22.0	35,711	100.0
1930	3,340	9.4	5,645	15.8	8,985	25.2	35,656	100.0
1931	4,038	11.9	6,011	17.7	10,049	29.6	33,923	100.0
1932	4,163	14.9	5,138	18.3	9,301	33.2	28,001	100.0
1933	3,725	15.0	4,490	18.1	8,215	33.1	24,786	100.0
1934	5,114	18.8	4,689	17.3	9,803	36.1	27,175	100.0
1935	6,016	20.9	4,897	17.0	10,913	37.9	28,785	100.0
1936	7,245	22.5	5,499	17.0	12,744	39.5	32,259	100.0
1937	7,508	22.9	5,231	16.0	12,739	38.9	32,739	100.0
1938	8,374	27.3	4,903	15.9	13,277	43.2	30,721	100.0
1939	10,617	32.5	5,236	16.1	15,853	48.6	32,603	100.0
1940	11,380	33.0	5,332	15.5	16,712	48.5	34,451	100.0
1941	14,319	35.2	5,443	13.4	19,762	48.6	40,659	100.0
1942	17,170	36.7	5,390	11.5	22,560	48.2	46,800	100.0
1943	26,031	38.8	5,003	7.5	31,034	46.2	67,154	100.0

* Compiled by Division of Research and Statistics, Federal Reserve Bank of Chicago.

would be a rise in the rate of interest with impending capital losses. Many untutored citizens, of course, connect the fall in the price of governments with the security of the government itself. Even this illusion may be worth preserving. It is difficult to argue that government bonds should not be as good as cash and, often, more convenient.

Commercial banks as the principal holders of the public debt are vitally concerned with the stability of U. S. security prices. Their investments of government bonds have increased both relatively to

⁶⁰ While there is no price maintenance problem with respect to the nonmarketable debt, the panic liquidation of marketable issues might stampede the redemption of the nonmarketable debt.

their other assets and absolutely over the years (since 1928), as shown in Table IX. The stake of banks in government bonds is over four times greater than in 1929, measured as a percentage of earning assets. On June 30, 1943, U. S. government bonds comprised 38.8 per cent of the total loans and investments of the member banks in the Federal Reserve System. A decline in the market price of bonds will be reflected in a change in the worth of these assets, depending upon how they happen to be carried on the books of the banks.

The depreciation of bank assets due to the fall in bond prices may call for the sale of assets, write-offs to protect depositors from possible loss, curtailments in dividends, assessments against stockholders,⁵¹ the calling of loans and other practices likely to produce credit restrictions, depending upon the severity of the break in the market and rules and regulations governing the valuation of securities. Prior to 1930, federal securities had to be valued at the market price.⁵² During the crisis of 1931, the Comptroller permitted government bonds to be carried at cost.⁵³ In 1936, that officer ruled that banks were prohibited by law from buying "predominately speculative" securities. In 1938, the present practice of carrying governments at cost—showing neither appreciation nor depreciation—was agreed upon by the Treasury, the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Comptroller.⁵⁴ Consequently the necessity for maintaining the price of U. S. bonds to assure the immediate solvency of banks no longer exists. This is a matter of rule as distinct from law, and conforms to the easy-money policy employed in financing the war. A reversal of policy could easily change these accounting practices. Bankers like to carry assets at market and dislike to write them down. It is natural for them to exert pressure to have market prices maintained at or above the issue price. Insurance companies react similarly even though they are under less pressure than banks to meet tests of solvency at any time and can hold obligations to maturity. Also current interest, premiums, and other income can be invested at going market rates. Competition in dressing up balance sheets, however, is likely to add its pressure to that of others for continuous maintenance of the bond market.

Of course, it may be argued that these purchasers assumed the risks from price fluctuation prior to maturity, when they purchased the bonds, and that interest payments compensate them for such risks. They are not assuming risks of nonpayment, for the United States has both the ability and the intention of meeting its obligations at maturity.

⁵¹ Not applicable to national banks, nor to other banks in some states.

⁵² Morton, *loc. cit.*, p. 276.

⁵³ *Ibid.*, pp. 276-277.

⁵⁴ *Ibid.*, pp. 279-281; *Federal Reserve Bulletin*, July, 1938, p. 566.

That is taken for granted by the holders of the debt and by all United States citizens. From the point of view of payment, U. S. securities are practically riskless investments. It may be argued in consequence, therefore, that the government has no interest in price fluctuations prior to maturity unless the economic effects of the changes run counter to monetary, fiscal, or other policies of the government.

Under present circumstances it is doubtful if government bond prices need to be maintained at the issue price for the sake of bank solvency. Price declines are only significant for banks that are forced to sell bonds. If the bank does not have to sell, it can keep its government bonds without write-offs. If it elects to carry them at market because of its own notions of accountability, it can bear the costs of its own ideas. But if the prevalence of similar notions brings credit stringency when a different policy is socially desirable, the Treasury and monetary authorities should step in with correctives.

Even if the bond market should decline precipitately, it is by no means certain that banks would sell bonds until forced to do so.⁵⁵ Before selling bonds the banks would first dispose of their short-terms—the bills and certificates now held in substantial amounts.⁵⁶ They could also rediscount their government obligations at par with the Federal Reserve banks at low preferential rates.⁵⁷ Resort to these two courses makes the sale of government bonds by typical banks an unlikely event, so long as they are well circumstanced as at present.

In order to maintain the value of its securities, the government may attempt to stabilize the interest rate over a long term of years at or near its present level.⁵⁸ That will eliminate the depreciation of security values due to the capitalization of higher interest rates. It will minimize the carrying costs of a public debt now great enough to cause the Treasury to endeavor to keep them at a minimum. Nevertheless, the possibility that interest rates may become firmer in the postwar years must be recognized. It may be that commercial rates will rise somewhat,

⁵⁵ Cf. Williams, *loc. cit.*, pp. 244-245: "The banks have made progress (since 1937) in so arranging their portfolios as to be able to hold longer-term securities through periods of temporary market stress."

⁵⁶ Cf. Table VI.

⁵⁷ *Federal Reserve Bulletin*, December, 1943, p. 1156.

⁵⁸ In an address before the National Association of Supervisors of State Banks in Cincinnati, Ohio, on September 17, 1943, Marriner S. Eccles, Chairman of the Board of Governors of the Federal Reserve System, said: "You have only to look at the unprecedented and still growing volume of bank deposits created as a result of war financing to realize that relief cannot be expected to come through a rising interest rate structure after the war. The command over the interest rate structure which governments have exercised during the war will not, in my opinion, be relinquished afterward. In view of the high debt refunding operations that the Government will have to carry on and the disruptive effects of a falling bond market, or, otherwise stated, of a rising interest rate on these operations, it is hardly likely that the responsible authorities would fail to exercise their undoubted powers of control to prevent any such wide fluctuation in interest rates as would afford the banks a hope of rising returns from this source."

increasing the differential between commercial rates and rates on government paper. In the past, the trends of these rates have been similar⁵⁹ and may continue. The government, on the other hand, may use the mechanisms at its command to keep the rates on its own securities approximately where they are; in addition, it may become interested in keeping all interest rates low,⁶⁰ since the very policy of permitting commercial rates to rise may make the maintenance of its own rates difficult, if not impossible.

But suppose interest rates do rise? The Treasury can keep its outstanding bonds from falling in price only by taking them off the market. One method of accomplishing this is by offers to exchange outstanding bonds for new issues bearing a higher rate.⁶¹ The Treasury will hesitate to do this because of the great tax burdens added interest costs impose. Nevertheless, higher interest costs may be desirable if such payments keep down cash balances by inducing investors to maintain their holdings of governments instead of selling to the banks. Higher taxation appropriately fits into this by providing the added interest payments without, at the same time, permitting increased incomes.

If the government does not refund, then the alternatives are (1) to let the price of bonds fall to whatever level the capitalization of higher interest drags them, or (2) to maintain the market by a bond-purchase policy. If the first alternative is selected, no action is required. If, however, price maintenance through purchases is selected, the co-operation of the Federal Reserve System will be required. The larger the debt the greater is the size of the stabilization fund required; it is doubtful if the Treasury could manage the task alone.

Suppose, however, that rates of interest decline. This will cause bond prices to rise. If the fall in rates is not a temporary condition, the Treasury will attempt conversions at lower rates for all maturing issues. Successful conversion is one of the visible signs of good debt management. It will restore the price of converted issues to par. The longer the conversion is delayed the greater the likelihood that speculation in government bonds may commence, bringing about the sale of governments by the Reserve System when such speculation is symptomatic of widespread inflation.

With respect to long-run changes in the rate of interest, wise Treasury management would refund, or exchange, at higher rates when interest rates are rising, and convert at lower rates when interest

⁵⁹ See *Federal Reserve Charts on Bank Credit, Money Rates, and Business*, March 2, 1943, pp. 25-33.

⁶⁰ The ability of the government to influence the commercial rate of interest by Treasury and Federal Reserve bank action is reserved for discussion on another occasion.

⁶¹ Maturing issues may be refunded at higher rates.

rates are declining. Fiscal and monetary policies as related to inflation, deflation, and employment, often complicate this easy statement of policy.

What are the factors on the supply side of the market (for government securities) that are likely to influence the price of bonds, and thus the rate of interest, after the war?

During the war, many federal securities were purchased on the basis of patriotic motives for temporary holding. After the war, these securities will tend to be held until other uses for the funds appear to be more important. Among the temporary investors are state and local governments with surplus revenues which, because of wartime controls, have not been spent on such things as highway construction and building maintenance.⁶² Corporations have invested surplus funds, depreciation allowances, and reconversion reserves in U. S. securities. Both long- and short-term securities have been purchased,⁶³ although where the need for cash in the near future could be anticipated, it may be assumed that the purchase of short-terms predominated. Never-

⁶² Retirement funds have made similar investments. Sale of bonds by these funds may depend on the development of more attractive interest rates.

⁶³ Some indication of the situation may be gleaned from the following tabulation of security sales during the first three War Loan Drives where both the types of owners and the kinds of securities purchased are shown:

SALES OF U. S. GOVERNMENT SECURITIES DURING FIRST THREE WAR LOAN DRIVES*
(amounts in millions of dollars)

Purchasers	Treasury Bills ¹	Certificates of Indebtedness	Treasury Bonds	War Savings Bonds E, F, G	Tax Notes A, B, C	Total
Commercial banks	\$1,707	\$4,255	\$4,168	\$	\$	\$10,130
Savings banks		272	3,036	1	"	3,312
Insurance companies		332	6,368	4	1	6,705
Other corporations ²		5,452	3,456	539	4,929	14,371
Individuals, partnerships and personal trusts		730	3,128	5,883	513	10,256
Dealers and brokers		1,124	1,195	"	"	2,319
Eleemosynary institutions		53	117			170
U. S. Government agencies and trust funds		14	1,271			1,284
State and local governments, agencies and funds		700	732	30	26	1,492
All other		232	154			386
Total	\$1,707	\$13,164	\$23,625	\$6,457	\$5,469	\$50,425

* Less than \$50,000.

¹ Not included after First Drive.

² Includes sales to eleemosynary institutions and U. S. agencies and trust funds not handled through the Treasury Department during Third Drive.

* Data taken from *Bulletin of the Treasury Department*, January, 1943, p. 2; May, 1943 p. 3; October, 1943, p. 4.

theless from these various holders bond sales may be expected in the postwar years.

In the reconversion period and months immediately following, when goods become more generally available for consumers, some pressure on the banks will develop from the withdrawal of funds temporarily carried as deposits by war workers and members of the armed forces. On the one hand, the withdrawals will affect banks in territories from which war workers and soldiers depart. New deposits may be expected as they relocate. The same is true with respect to the shifting of business deposits. Banks in some areas may be brought under great pressure to sell governments—first short-terms, then bonds—to protect deposits. Other banks gaining deposits will be in a position to buy. It has been estimated, moreover, "that most banks hold sufficient short-term securities to cover a loss up to half of their deposits without in any way endangering their capital position."⁶⁴ The territorial aspects of this problem will be greatly eased by gradual transfers from war to peace. On the other hand, withdrawals in the postwar period to purchase goods is not a territorial problem. As individuals withdraw, their withdrawals tend to reappear as credits to other depositors. Little or no pressure, therefore, on the banks as a whole, is to be expected.

In the postwar years, with industry needing more capital for reconversion, working capital, etc., enhanced opportunities for bank profits may become a reality. Such loans will afford more attractive yields than government bonds. Rather than sell their governments, commercial banks may prefer to borrow from Federal Reserve banks. Such borrowing would tend to increase profits as banks could have "the cake" from government investments and enjoy the fruits from commercial loans at the same time.⁶⁵ The difficulty is that, since the depression of the thirties, banker psychology has opposed borrowing from the "Fed" and such borrowing as there has been has, in the main, been due to one emergency or another.⁶⁶ This psychology may, however, be

⁶⁴ William W. Tongue, Department of Research and Statistics, Federal Reserve Bank of Chicago. Letter dated January 6, 1944. See particularly Miss Sylvia Zoller's unpublished memorandum, "The Effect of Higher Interest Rates on Banks," prepared in Department of Research and Statistics, Federal Reserve Bank of Chicago, where it is concluded: "Many banks will have heavy deposit withdrawals and may be forced to sell part of their longer-term holdings to meet these immediate cash requirements. Although banks so affected may be in a very small minority, this selling may be important enough to start a strong selling wave and cause large further sudden declines in bond prices."

⁶⁵ Member banks can secure advances at par from the Federal Reserve banks, at present writing, secured by U. S. government bonds bearing 2% interest, or more, at a discount rate of 1%. Advances secured by U. S. securities maturing within one year can be discounted at rate of $\frac{1}{2}\%$. At this latter rate, it may be profitable for banks even to discount certificates of indebtedness now yielding $\frac{1}{8}\%$. See *Federal Reserve Bulletin*, December, 1943, p. 1156.

⁶⁶ The bills discounted, for member and nonmember banks, by the Federal Reserve System at the end of each year have been as follows:

changed before the war ends, for the continuance of Treasury borrowing may well force the resumption of discounting operations with the Reserve banks. This change would appear to ease the pressure for the sale of governments by banks after the war.

Insurance companies may sell federal securities in large blocks if more profitable investments are available. Their interest assumptions on outstanding contracts are typically more than the returns paid on current issues of U. S. securities⁶⁷ and some insurance officers have urged the Treasury to issue special obligations bearing interest rates sufficient to cover those assumed for life insurance calculations. The Treasury has turned a deaf ear to such subsidies, but after the war insurance companies cannot be expected to hold on to more governments than company earnings justify. They will be sold as more profitable investments appear, just as during the late depression governments were turned to as profitable alternative investments disappeared.

Similar motives from the income point of view, reinforced by the desire to avoid capital losses as interest rates tend to increase on the market, will doubtless extend to other holders of the public debt. "More profitable opportunities" are also a temptation to commercial banks to sell government bonds.⁶⁸ To whom will owners sell their securities? What are the factors on the demand side of the market for government securities?

At certain stages in the postwar economic cycle, commercial banks could absorb the issues thrown on the market. On the other hand, if industry needs funds at rates above government offerings, bank resources, on the basis of profit opportunities, will tend to go to industry until that demand is satisfied, or until the effective government rate

BILLS DISCOUNTED BY FEDERAL RESERVE BANKS IN MILLIONS OF DOLLARS*

1918	\$1,766	1926	\$ 637	1934	\$ 7	1942	\$ 6
1919	2,215	1927	582	1935	5	1943	101 (12/29)
1920	2,687	1928	1,056	1936	3	1944	31 (1/5)
1921	1,144	1929	632	1937	10		
1922	618	1930	251	1938	4		
1923	723	1931	638	1939	7		
1924	320	1932	235	1940	3		
1925	643	1933	98	1941	3		

* Data 1918-42 taken from *Twenty-ninth Annual Report of the Board of Governors of the Federal Reserve System, covering operations for the year 1942*, p. 79. Data for December 29, 1943, and January 5, 1944, secured from Federal Reserve Bank of Chicago.

⁶⁷ The typical interest assumptions on which life insurance has been written are 4, 3½, and 3%, with a few companies now using 2½%.

⁶⁸ Cf. Hicks, *op. cit.*, p. 330 (made with reference to short-terms); Haley, "The Federal Budget: Economic Consequences of Deficit Financing," *American Economic Review*, February, 1941, p. 86.

risers enough to overcome the expected economic preference.⁶⁹ There seems to be some point, if the price falls low enough, at which banks will rush in to take the bargains off the market. However, in view of the relatively large holdings of governments by banks, they will probably not be willing purchasers of additional governments save at attractive yields, or as brokers for their customers. Moreover, the opportunities for resale of bonds to customers doubtless will be limited during the reconversion period. What lies beyond is uncertain but whatever way the cycle moves, it is hard to see it as producing an increased market for government bonds,⁷⁰ or as providing a private mechanism for the stabilization of bond prices.

The Federal Reserve System could purchase securities, but should do so only for reasons of monetary policy. Its purchase of governments would increase excess reserves and augment available bank credit. If this occurred after industrial reconversion, it would tend to swell the drift toward inflation which may be expected from other quarters. Instead of buying governments, the more appropriate policy would probably be to sell them.

While the Federal Reserve System, under the present easy-money policies for financing the war, is obviously in no position to exert a counter-inflationary influence by selling securities on the open market, and is actually pursuing a vigorous buying policy, yet it should select its portfolios now so as to be in a position to exercise effective monetary control in the postwar years. Specifically, this indicates the desirability of increasing its ownership of long-term bonds.⁷¹ This will, also, assist the Treasury in financing the war, by supporting the bond market and encouraging member banks to buy longer term bonds.

If, for whatever reason, it should be decided to stabilize the price

⁶⁹ It could be assumed, of course, that the demands for private capital and commercial loans might be provided by the government or its corporations, while the banks could be used to finance the government (purchase and hold its bonds). This may be appropriate assistance by government during severe depressions, but is hardly the role in which banks and the government should be cast in prosperity periods. Likewise, it runs counter to notions of competitive capitalism toward which government is expected to trend in the postwar period.

⁷⁰ This does not overlook the possibility that borrowing may be employed to finance a public works or other employment-stimulating program in the postwar period. Such policies do not increase the market for government bonds: they utilize whatever market exists.

⁷¹ The ownership of U. S. securities, direct and guaranteed, by the Federal Reserve System on December 29, 1943, was as follows:

Bonds	\$ 1,624,664,000	14.0%
Notes	676,900,000	5.8
Certificates	2,407,150,000	20.7
Bills	6,906,175,000	59.5
Total	\$11,614,889,000	100.0%

Data secured from the Federal Reserve Bank of Chicago.

of government bonds, resources are available with which this can be accomplished. They include purchases by the Federal Reserve System, Treasury purchases (including the use of working balances in the General Fund, and in the Gold Stabilization Fund), the issuance of Greenbacks, and the suspension of reserve requirements by the Federal Reserve Board.⁷² Further devices can be made available under special legislation.⁷³

⁷²The writer is indebted to Mr. William W. Tongue, Financial Economist, in the Division of Research and Statistics of the Federal Reserve Bank of Chicago and to Mr. Jacob Cohen, Fellow in the University of Chicago, for the following information on which the potential power of the Reserve System to stabilize the bond market by means of open-market operations is based.

The purchase of government securities on open-market account would expand the deposit and/or note liabilities of the System. In the following estimates it is assumed that the increase in liabilities will be divided equally between Federal Reserve notes in actual circulation and member bank reserve deposits; i.e., the total increase in circulating media will be composed $\frac{1}{2}$ of money in circulation and $\frac{1}{2}$ in member bank deposits, assuming average member bank reserve requirements against deposits of 20%. The Federal Reserve System can expand its holdings of governments under four powers: (1) use of current excess reserves of Federal Reserve banks; (2) use of powers conferred by Thomas Amendment and Gold Reserve Act; (3) issuance of Federal Reserve bank notes; and (4) suspension of reserve requirements.

1. As of October 20, 1943, the Reserve banks had excess reserves of \$9,229,000,000, which a priori permit purchase of \$24,611,000,000 of government bonds. This would bring corresponding expansion in Bank liabilities and reduce reserves to approximate legal minimum.
2. Under the Thomas Amendment (Sec. 43) of the Agricultural Adjustment Act of 1933 (43 Stat. 33) as amended by the Gold Reserve Act of 1934 (43 Stat. 337), and as further amended and under other provisions of the latter act, the Treasury could acquire additional resources to purchase substantial amounts of government securities through (a) issuance of U. S. notes, (b) monetization of silver bullion held by the Treasury, (c) devaluation of silver to 50% of present monetary value, (d) use of stabilization fund, (e) and use of remaining increment from devaluation of the dollar. In view, however, of the expiry of paragraph (b) (2) of sec. 43 of the Agricultural Adjustment Act on June 30, 1943, it is doubtful whether the powers provided under (b) and (c) are still in effect.
3. If further reserves are needed for purchase of governments, they can be acquired almost without limit by use of Federal Reserve bank notes. These can be issued with any direct U. S. obligations as collateral, without any additional reserves being required. Federal Reserve Act, Sec. 18, Par. 6. Further, these may be "retired" by depositing gold certificates with the Treasury. Actually the Federal Reserve banks would credit the account of the Treasury, entitling the Treasury to withdraw gold certificates from the Federal Reserve banks. But since gold certificates cannot be paid out to retire the Federal Reserve bank notes, the Treasury presumably would spend the deposits or leave them as balances with the Federal Reserve banks. The Federal Reserve bank notes outstanding would thus become outstanding obligations of the U. S. rather than of the Federal Reserve System. This assumes a legal construction that Federal Reserve bank notes are "lawful money" usable as reserves against deposits of the Federal Reserve System.
4. Finally, the Board of Governors of the Federal Reserve System has power to suspend reserve requirements for limited periods. See Federal Reserve Act, Sec. 11(c), Par. 4. This power could be used in emergencies to permit additional purchases of U. S. obligations.

⁷³The possibilities for supporting the bond market under legislation yet to be conceived and enacted are legion. One proposal, for example, is to force banks to hold government issues to maturity. Similar coercion might be applied to other institutions. Or special funds may be set up to buy government securities whenever they fall below par as was done in 1918 when the Secretary of the Treasury was authorized to purchase 5% annually of the par amount of bonds issued. (See R. A. Love, *Federal Financing*, New York, 1931, pp. 196-197.) Other proposals have been made to permit payment of obligations to the

It would seem, however, that the best policy to follow with respect to the maintenance of bond prices in the postwar period is for the Treasury and monetary authorities to co-operate in keeping interest rates low. Should they rise, the Treasury should refund at higher rates, just as it has always converted callable or maturing issues when interest rates decline. Such price changes as are the result of the operations of the Federal Reserve System should be primarily for reasons of monetary policy rather than for the stabilization of bond prices per se. Thus, price maintenance becomes largely a cyclical problem in which the price of securities is of secondary concern.

If it should be decided as a matter of policy continuously to maintain the price of government bonds at par, and this policy were announced, it would, in effect, make all government obligations practical substitutes for cash—perhaps superior in some cases. This would presuppose, of course, that once announced the government was in an unequivocal position to carry out the policy. This would mean that banks and all others could hold long-term bonds from a liquidity point of view as easily as short-terms. Moreover, if the government were in a position to make its maintenance policy completely effective, interest rate differentials among the various types of securities could be expected gradually to narrow. The differentials are ordinarily explained on the basis of time from issuance to maturity.⁷⁴ Already, due to Federal Reserve purchase policies for bills and support of the market for certificates, the distinction between the rates on these short-terms is now practically meaningless.⁷⁵ If, therefore, the government assured a stable price on bonds or agreed to purchase them at par, present long-term interest rates, though already low, should tumble further. The government should certainly exact such a reduction as the price for continuous bond maintenance. Should it decide on such a maintenance policy, it should be publicly announced with rate reductions driven to the competitive limit. Should it adopt the policy but refuse to announce it, only those who sold bonds would benefit. But whether government bonds should be converted into substitutes for cash by means of a price maintenance policy is highly questionable. Such a policy may be appropriate during a period of deflation but an increased quantity of money substitutes may invite inflation.

United States by the surrender of debt at par or at guaranteed values. (For similar proposals at the end of the last war and difficulties encountered see Love, *op. cit.*, pp. 200-204; Van Sant, *op. cit.*, p. 21.)

⁷⁴ But note in Table XI exceptions to this general statement.

⁷⁵ The present apparently contradictory spread between bills and certificates may perhaps be explained as follows: (1) Federal Reserve policy as to the maintenance of the certificate market has been less clearly enunciated than its policy of support for the bill market; (2) conventional distinction between rates make for rigidities and persistence in the differential even when its economic justification has passed. Continuance of factors such as these may mean the modification of any predictions as to the future effects of a price maintenance policy.

IV. Meeting Maturity Schedules

The way debt maturities are handled will go far toward maintaining the market on outstanding securities, as was indicated in previous discussion. The maturing public debt issues will confront the Treasury at intervals over the course of the next generation. The time the Treasury will have to face its debt maturities is determined when the obligations are issued. What the precise problems will be will depend on conditions in an unknown future. Whether the debt will come due in the midst of prosperity or depression, in peace or war, in time of crisis, and financial stringency or during periods of full employment and rising incomes, will be known certainly only when the due dates arrive. The closer the maturities are to the time of issue, the less uncertain is the future; as maturity dates draw nigh the Treasury will learn what to expect and will attempt to devise policies appropriate to the occasion, but the more distant the maturities the less the present concern over the problems then likely to arise. Questions raised by distant maturities may have to be solved by other administrators, borne by other taxpayers and, perhaps, determined by different ideas or principles from those now in vogue. But the state today must run on borrowed money, its settlement dates must be spread over future calendars, so as to maximize present operations. Lenders, too, do not want all of the loans coming due at the same time.

In time of war, debt issuance is almost a continuous process; for administrative convenience, weekly, monthly or other datings are placed upon securities as they are emitted. The meeting of maturities, therefore, is never a static problem. It is a task that moves along as debt cumulates and as the Treasury staff, with a table of present maturities before it, selects the due dates or call dates of new issues, attention being given in the process to the wishes of lenders. The maturities are thus constantly changing. Some may be pushed forward beyond others, intervening dates may be filled in, additional maturities may be fixed for times already partially filled; but, whatever the date selected, the Treasury as a going concern is mindful that some day in the future it will have to face the debt maturity problems of its own creation. Consequently, it is careful to avoid the concentration of maturity dates. By spreading its maturities, it hedges against future uncertainties which large volumes of debt maturing at a given time might magnify; refunding, conversion or payment are facilitated, strain on the banking system is lessened, and better terms for renewals, or new money, may even be secured. The spreading of maturities has, indeed, become a maxim of debt administration.

The schedule of maturities as they existed on October 31, 1943, the latest date for which information was available, is shown in Table

X. The schedule covers a period from 1943 to 1972, beyond which no maturities yet extend, and indicates that the Treasury has wisely allowed itself some discretion in meeting its maturity problems. Issues have been floated, giving the Treasury the option of calling them several years before the final maturity date. For example, the 2½ per cent bonds issued on March 15, 1935, in the amount of \$2,611,000,000, are subject to call for redemption or payment on March 15, 1955, but are finally due on March 15, 1960.⁷⁶ On Table X, \$2,611,000,000 appears for the year 1955 in column 5, headed "Fixed Maturities and First Calls," and again in column 6, headed "Fixed and Final Maturities," but this time under the year 1960. Seven other instances appear on the face of Table X, columns 3 and 4. The table shows the fixed maturities by years (column 2) and the final maturities of the callable issues (column 4). The two combined (column 5) indicate the amount of maturing debt on which the government must act during any one year.⁷⁷ The total of fixed maturities, first calls, and final maturities (column 10) shows the maximum amount of maturities the government can elect to pay or refinance during any one year. On October 31, 1943, the amount of these liabilities aggregated \$185,327,000,000, of which 23.46 per cent came due in 1943 and 1944. Before 1948, 34.20 per cent of the maximum possible liabilities have to be met in some fashion; and before 1954, 70.57 per cent of the total will confront the Treasury. The next decade will see debt management as one of the major concerns of the United States fiscal policy. The maturing debt may place its shadow over other operations and policies of the government.

The immediacy of these management problems is due to the increased use of short-term obligations. As the market for short-terms becomes sated, as it bids fair to do unless bank reserve requirements are changed or member banks start borrowing from the Federal Reserve System or both, the use of Treasury Notes will increase the five-year maturities. Their issuance will be reflected on subsequent maturity tables. Banks will doubtless be called upon in the forthcoming drives to increase their subscriptions to Treasury bonds. This will add to the ten-year maturities. The twenty-year bonds have been issued primarily to attract life-insurance-company subscriptions and new issues for them will affect the twenty-year interval on the maturity table. As the war borrowing continues, it would seem that there will be a tendency for the intermediate and longer-term debt to increase, as the market for short-terms exhausts excess reserves and as the maturities in bank

⁷⁶ Cf. *Annual Report of the Secretary of the Treasury*, 1942, p. 488.

⁷⁷ Tables in the *Bulletins of the Treasury Department* show data for particular months and days. See also descriptions of outstanding issues in *Annual Reports of the Secretary of the Treasury*.

MATURITY SCHEDULES OF INTEREST-BEARING PUBLIC MARKETABLE SECURITIES ISSUED OR FULLY GUARANTEED BY THE UNITED STATES, AS OF OCTOBER 31, 1943*
(amounts in millions of dollars)

Year	Detailed Annual Maturities			Total Annual Maturities		Type of Securities Maturing				Percentage Distribution of Total Fixed, First Calls and Final Maturities by Years	Cumulative Percentages (from Column 11)	Year
	Fixed Maturity Issues	Callable Issues by Year of		Fixed Maturities and First Calls	Fixed and Final Maturities	Bonds	Notes	Bills and Certificates of Indebtedness	Total Fixed, First Calls and Final Maturities			
		First Call	Final Maturity									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1943	\$13,361			\$13,361	\$13,361	\$4,265	\$421	\$12,940	\$13,361	7.21%	7.21%	1943
1944	25,858	\$4,264		30,122	25,858	2,534	2,534	23,323	30,122	16.25	23.46	1944
1945	4,147	1,969		6,117	4,147	2,510	3,607		6,117	4.30	27.76	1945
1946	3,780	2,344	\$1,519	6,124	5,299	3,879	3,964		7,643	4.12	30.88	1946
1947	3,421	759	1,969	4,180	5,391	3,442	2,707		6,149	3.32	34.20	1947
1948	3,513	2,910	1,036	6,423	4,549	7,459			7,459	4.03	38.23	1948
1949		6,682	1,684	8,364	1,654	8,336			8,336	4.50	42.73	1949
1950		8,088	1,687	9,775	1,687	9,775			9,775	5.27	48.00	1950
1951		11,971	5,628	11,971	5,628	17,599			17,599	9.50	57.50	1951
1952		2,324	10,117	2,324	10,117	12,641			12,641	6.82	64.32	1952
1953		725	10,864	725	10,864	11,589			11,589	6.25	70.57	1953
1954		681	3,687	681	3,687	4,368			4,368	2.36	72.93	1954
1955		2,611	3,491	2,611	3,491	6,102			6,102	3.29	76.22	1955
1956		2,431	1,170	2,431	1,170	3,601			3,601	1.94	78.16	1956
1957												1957
1958		919	1,449	919	1,449	2,368			2,368	1.28	79.44	1958
1959			1,982		1,982	4,096			4,096	2.21	81.65	1959
1960		1,485	2,611	1,485	2,611	4,096			4,096	2.21	82.21	1960
1961	50			50	50	2,118			2,118	1.14	83.35	1961
1962		2,118		2,118								1962
1963		2,831	919	2,831	919	3,750			3,750	2.02	85.37	1963
1964		7,570	95	7,570	95	7,665			7,665	4.14	89.51	1964
1965			1,485		1,485	1,485			1,485	.80	90.31	1965
1966												1966
1967		2,716	2,118	2,716	2,118	4,834			4,834	2.61	92.92	1967
1968			2,831		2,831	2,831			2,831	1.53	94.45	1968
1969			7,570		7,570	7,570			7,570	4.08	98.53	1969
1970												1970
1971												1971
1972			2,716		2,716	2,716			2,716	1.47	100.00%	1972
Totals	\$54,130	\$65,598	\$65,598	\$119,729	\$119,729	\$136,031	\$13,033	\$36,263	\$185,327	100.00%		

* Source: *Bulletin of the Treasury Department*, November, 1943, pp. 28-30.

portfolios tend to lengthen. It may also be expected—with the passage of time and the continuance of issues for customary terms, such as ten and twenty years—that years now showing small amounts of maturing debt will gradually be increased. Soon the three years showing no maturities whatever will probably be filled in unless the end of the war also ushers in a period of successive budgetary surpluses. In that case, not only will the forward movement of debt maturities be ended, but the maturing issues in such years may be met in whole or in part by payment. But it cannot be said that payment is invariably the best policy. There are times in the economic cycle when the imposition of taxes for debt repayment are more deflationary than is good for the economy; at other times in the cycle it may be the most appropriate of policies.

If debt is not to be repaid when due, the Treasury must arrange in advance for an extension of its credit or else its failure degenerates into a "technical," or later into a real, default. The task of the debt administrator is to avoid these lapses if possible. The refunding or exchange of old debt obligations for new ones with later maturities, or even more liberal terms, is the usual mode of avoidance of payment. But whatever is done is determined by the exigencies of the time and the convenience of the Treasury acting in the national interest. Inasmuch as government exists for other purposes than the payment of past debts, its policies must be based upon some calculations of the alternative uses for its resources, the conditions being produced by the relevant stage of the economic cycle being considered. These conditions change with the forward movement of time and the economy of the nation. Meeting maturities is a dynamic problem; the convenience of different policies for the Treasury will vary. Again, if the problems are dealt with hypothetically, the desired answers can be assumed when the supposed conditions are laid down.

Two considerations of broad public policy are suggested. First and foremost, Treasury policies for meeting debt maturities should be cyclically determined. This will consist in managing the composition of the debt both as to type of securities and ownership so as to achieve the economic effects most appropriate to the cycle. It is often impossible to separate these two aspects of the composition of the debt since shifts in one almost inevitably involve the other. Second, consideration should be given to the financial costs—that is, borrowing on the most favorable terms—to be weighed in debt management policy determination in the light of their economic effects.

Cyclical fiscal policies for meeting debt maturities will involve shifts in maturities as well as changes in the form and type of obligations. Shifts from long- to short-terms and vice versa are closely related to the money market. Short-terms perform functions more closely related

to money. Treasury maturity policies should be designed to increase the quantity of money substitutes in times of depression and avoid them at other times. One type of security may tend to keep funds invested in governments for a longer period than another. By shifts in securities offered, the Treasury should see that holders have in their possession obligations appropriate to the time. However, many of the differences of economic significance between various types of securities are destroyed, as was pointed out in the preceding section, if the government adopts a policy of continuously maintaining the market price of its outstanding issues. This it may do either by exchanges when interest rates change, or by open-market purchases. The policy of maintenance is the controlling factor, not the method by which it is made effective.

Historically, the composition of the debt has been changing. Individuals once were the principal owners of public debts; now it is the banks and other financial institutions.⁷⁸ In the short-run—between issuance and maturity—the ownership of types of debt may change. Some classes of holders, due to preference of their own, may, at various times, prefer cash to continued investments in governments, or may prefer one type of security, or maturity, to another. During periods of prosperity when surpluses are accumulating, private industry may seek an outlet for its funds by investing in long-term government securities. During depressions, such investors prefer the liquidity afforded by short-terms. Mrs. Hicks has suggested that these shifts may be regular phenomena of the cycle.⁷⁹ Many of these changes have been fortuitous and they may so continue. It is the task of Treasury debt management, however, to try to control the composition of the debt on the basis of relevant economic effects.

One of the major considerations is with respect to the quantity of money. In order to increase the quantity of money in the early stages of recovery from depression, increased borrowing from the banks is appropriate.⁸⁰ As the economy moves from recovery to prosperity, borrowing from the current income stream is less expansionary.⁸¹ These tendencies in the past seem to have been without design. Debt maturity management should make the worth-while fortuitous policies deliberate.

Another relevant economic consideration is the need for private venture capital in the reconversion and post-transition period. From this standpoint the upper-income classes should invest in industry rather than in government securities. This will be implemented by the gradual

⁷⁸ See Table VIII; also "Treasury Survey of Ownership of Securities," *Bulletin of the Treasury Department*, November, 1943, p. 47 (or any month).

⁷⁹ See *supra*, footnote 36.

⁸⁰ A. H. Hansen, *Fiscal Policy and Business Cycles* (New York, 1941), pp. 431-432.

⁸¹ *Ibid.*

extinction of tax exemption privileges as outstanding issues are either paid off or refunded. The application of progressive tax rates to taxable issues will have a similar result. Positive encouragement to venture capital may be extended by favorable differential taxation. On the other hand, lower and middle-income classes, and their institutions, should be encouraged to invest in governments and the relatively riskless securities. Typically, the long-term issues are best suited to their needs. The increased investments of insurance companies, savings banks and fiduciaries and the sale of savings bonds through pay-roll deductions are wartime steps in this direction.

The financial policies followed relative to maturities should be designed to secure for the government the renewal of credit on the best possible terms. To do this, the Treasury must know the terms on which holders at maturity are willing to renew their loans, as well as the terms on which new creditors are willing to pay off old ones. It involves judgment as to the proper timing for refunding operations or conversions. The answers to the questions involved are not always the same. Vague as are the "conditions of the market" and "the convenience of the Treasury," they are the stuff of which maturity policies are made. Where the financial objectives conflict with cyclical objectives the latter should be controlling. Often both objectives may be achieved at one and the same time.

Both the financial and cyclical objectives of debt management can better be satisfied by the issuance of securities without maturity dates, but subject to call for redemption at the pleasure of the Treasury. It is not even important that the securities be free from call for any term of months or years. The Treasury can pay for the privileges it secures from its creditors. A study of the terms of issuance of federal securities will indicate too much adherence to rigid forms, with too little flexibility for exercise of wise management policies. The call provisions are put years ahead and the period between the first call date and final maturity has not recently exceeded five years. In Table XI are shown the provisions in U. S. bonds marketed since July 1, 1940, governing the years and months between the issuance of bonds and the first call date. The shortest period the Treasury has allowed itself before calling bonds is seven years. Six times it picked this period. On two issues it postponed the call date for over twenty-five years and there are eight issues which cannot be called until twenty or more years have elapsed. The right to call bonds at the convenience of the Treasury has certainly been contracted away. It is doubtful if the Treasury received much for the postponement except the thanks of holders who want call dates postponed as long as possible. They frequently tell the Treasury, on the basis of their own desires, that call loans cannot be readily marketed. This can be disproved by the doing.

The maturities on securities issued since July 1, 1940, as shown in Table XI, range from nine months to nearly thirty-one years in the case of a single issue. Only one issue was for a fixed term and not subject to prior call. That was the issue of December 1, 1942, bearing $1\frac{3}{4}$ per cent interest and maturing in five years, six and a half months.

TABLE XI
TIME FROM DATE OF ISSUE TO CALL AND MATURITY IN U. S. BONDS MARKETED
JULY 1, 1940, TO DECEMBER 31, 1943*

Date of Issue	Rate of Interest	Term to Call		Term to Maturity		Years Between Call and Maturity Dates	Amount of Issue in Millions
		Years	Months	Years	Months		
July 22, 1940	$2\frac{1}{2}$	13	$10\frac{1}{2}$	15	$10\frac{1}{2}$	2	\$ 681
October 7, 1940	2	12	$8\frac{1}{2}$	14	$8\frac{1}{2}$	2	725
March 15, 1941	2	7	—	9	—	2	1,116
March 31, 1941	$2\frac{1}{2}$	10	$11\frac{1}{2}$	12	$11\frac{1}{2}$	2	1,024
June 2, 1941	$2\frac{1}{2}$	14	$9\frac{1}{2}$	16	$9\frac{1}{2}$	2	1,449
October 20, 1941	$2\frac{1}{2}$	25	$10\frac{1}{2}$	30	$10\frac{1}{2}$	5	1,596
December 15, 1941	2	10	—	14	—	4	533
December 15, 1941 ¹	$2\frac{1}{2}$	25	$10\frac{1}{2}$	30	$10\frac{1}{2}$	5	1,120
January 15, 1942	2	7	5	9	5	2	1,014
February 25, 1942	$2\frac{1}{2}$	10	$3\frac{1}{2}$	13	$2\frac{1}{2}$	3	1,511
May 5, 1942	$2\frac{1}{2}$	20	$1\frac{1}{2}$	25	$1\frac{1}{2}$	5	882
May 15, 1942	2	7	4	9	4	2	1,292
July 15, 1942	2	7	5	9	5	2	2,098
August 3, 1942 ²	$2\frac{1}{2}$	20	$1\frac{1}{2}$	25	$1\frac{1}{2}$	5	1,236
October 19, 1942	2	7	5	9	5	2	1,963
December 1, 1942	$2\frac{1}{2}$	21	$\frac{1}{2}$	26	$\frac{1}{2}$	5	2,831
December 1, 1942	$1\frac{1}{2}$	—	—	5	$6\frac{1}{2}$	—	3,062
April 15, 1943	2	7	5	9	5	5	4,939
April 15, 1943	$2\frac{1}{2}$	21	2	26	2	5	3,762
September 15, 1943	$2\frac{1}{2}$	21	3	26	3	5	3,779
September 15, 1943	2	8	—	10	—	2	5,257
October 15, 1943 ³	$2\frac{1}{2}$	21	3	26	3	5	59 p
October 15, 1943 ³	2	8	—	10	—	2	2,729 p

p = Preliminary.

¹ Issue of additional amount dated October 20, 1941.

² Issue of additional amount dated May 5, 1942.

³ Issue of additional amount dated September 15, 1943.

* Compiled from *Bulletin of the Treasury Department*, November, 1943, p. 31; *ibid.*, January, 1944, p. 31.

When call options are free, or even liberal, maturity dates have little real significance. When call provisions are lacking, *as they never should be*, the Treasury has no opportunity to do anything except pay or refund at maturity.⁸² Indeed, it may be argued that refunding destroys most of the meaning of maturity dates except for the tasks imposed on the debt administrators.

⁸² Or, if the interest rate has fallen, it may convert.

The Treasury has also given itself all too little room to adjust its policies to its own convenience or to general economic conditions in the brief period between the call and maturity dates. (See also Table XI.) In eleven issues, since July 1, 1940, the Treasury has allowed itself only two years between call and maturity to arrange its financial policies. In one case the period given was three years; in another it was four; on nine issues the leeway was five years—a decidedly more liberal period from the standpoint of providing flexibility of debt management. Under the pressure of the war, with the patriotic zeal so evident in bond sales, the Treasury might well have set for itself a more liberal pattern for the future.

A far better policy would be for the Treasury in its long-terms either to abandon all fixed maturities and swing over completely to the issuance of call bonds or, as a step in that direction, to add them to the securities now available. Issues similar to the old British consols, or perpetuities terminable on call, could run (apart from changes in the market rate of interest requiring decisions as to refunding or conversion) until the Treasury called them for payment. They could be allowed to rise above or fall below the issue price as the Treasury decided, announcement being made at the time of issue. These securities would carry a fixed rate of return. Their value would fluctuate according to the capitalizations of the market rate of interest, accentuated or retarded by the activity of speculators. It would be possible for the Treasury to stabilize the market value of its perpetuities, but this would raise the same problems as term issues. The administrative convenience of consols makes them not only an easy answer to many of the problems faced in dealing with debt maturities, but a step forward in Treasury debt policy. The issuance of consols would also facilitate price maintenance. Tradition and unfamiliarity are against their use, as well as doubt as to whether, once issued, the Treasury could avoid being forced, by pressure or unwise legislation, to maintain their price. Nevertheless consols have so much in their favor that the Treasury should begin their issuance at an early date. As a matter of fact, with interest rates at their present low point, the government should now issue consols in lieu of long-term bonds in whatever amounts could be sold or were needed to meet its financial requirements. As the borrowing proceeded, it might be that the interest rate offered would have to be increased, in which case the Treasury should do it as it would under any type of bond. Under present circumstances, however, there seems to be little reason to talk of higher rates for long-term money. Consols would be as attractive to many investors as fixed-term securities; many will prefer them. Certainly they provide the utmost flexibility in managing the public debt, a desideratum fully justifying their trial.

CONCLUSION

Debt management, often regarded as a financial or technical matter, has been related to the problems and policies of the economic cycle. Refunding, conversion, maintenance of the market, meeting maturities, shifts from short- into long-term obligations and vice versa—all provide an opportunity for debt management to implement a cyclical fiscal policy. In debt management, Treasury operations and those of the monetary authorities—the Federal Reserve System—merge in their effects upon the economy. It is important that the policies of each be harmonious and that they be conceived consciously in the light of probable economic effects. The wisdom of debt management is to be judged by these results.

In the postwar years, debt management will have to meet the problems raised by the redemption or refunding of nonmarketable securities; it will have to keep afloat or fund the short-term debt; it will have to maintain the market for outstanding issues or allow them to drift as market forces determine; it will have to meet maturity schedules or, by appropriate policies, postpone the time of payment. Many of these management problems may be solved by debt repayment but that course is not always open and on occasion may not be the appropriate policy, the effects of the requisite taxation being considered. Keeping the debt afloat will therefore involve refunding, conversion, and the exchange of issues, the operations being selected with respect to their bearing upon monetary and fiscal policy.

More specifically, it is suggested that substantial proportions of the nonmarketable debt will probably be carried to maturity by present holders, provided that the drop in incomes during the reconversion period is not too severe and the subsequent revival of productive activity maintains a high level of national income. Where debt management operations involve the substitution of one class of creditors for another, greater reliance on nonbank loans is suggested. In the case of short-term obligations their renewal over a period of years is envisaged. They now operate as an indirect method of borrowing from the Federal Reserve System. The issues mature with such frequency that they can be retired whenever convenient. If the tax structure is designed to discourage expansion, tax revenues may well be used to retire short-terms held by the Reserve banks; if revenues are so collected as to have little effect on expansion, member bank holdings of short-terms should be first retired. To meet changes in the price of securities due to changes in interest rates, it is suggested that the exchange of outstanding public issues with appropriate adjustments in the rate of interest, should replace purchase and sale by the Treasury and Reserve System as a price maintenance technique. Finally, as a flexible in-

strument adapted to wise debt-management policies, including ease in maintaining the market, the facilitation of refunding or conversion, as well as reaping the advantages of propitious market conditions, the use of consols, or perpetuities subject to unlimited call at the convenience of the Treasury, is recommended.

These suggestions all make possible the greater implementation of economic, fiscal, and monetary policy with respect to the cycle through the tools of debt management. To taxes, expenditures, and borrowing as instruments of policy may be added those employed in the management of outstanding debts.

DISCUSSION

DAN THROOP SMITH: Professor Leland's paper does not state specifically what should be done or when action should be taken. The discussion is admirable for the very fact that it stresses the many factors to be considered in any decisions on debt management and the many ramifications of such decisions as are made. It is clear that the handling of the debt in the future must take a higher place than heretofore among the arts of finance, and will be a large element in what must become a co-ordinated fiscal policy.

This approach is one with which I am in such complete agreement that I venture only to draw a few rather obvious generalizations from Professor Leland's specific listing of individual points. The first proposition for emphasis is that the mere size of the debt is not crucial in determining its effects on our economy. Changes in its composition and in the holders of it may be of greater importance than changes in the quantity of debt outstanding. The possible shifts of securities between individuals, insurance companies, banks, and the Reserve System are perhaps of more significance as well as of greater magnitude than any likely short-term changes in the size of the postwar debt. This is true both in the influence of the debt on the absorption and creation of funds, and in its effects through inducing or discouraging the spending of existing balances and incomes.

There has, perhaps, not yet been enough attention given to this second type of influence; that is, the effects of debt management on the flow of spending. The familiar pattern of thought in this area is on the effects of debt on the quantity of available funds—either funds in the hands of the public or bank reserves. Rates of spending by the general public have traditionally been expected to be influenced by debt developments only as inflation prospects induce a flight from currency. We may, however, in the future anticipate changes in spending arising from changes in the composition of the debt. As securities are issued and retired, they will absorb and release funds subject to different rates of use. With the debt equal to two or three times the probable postwar national income, relatively slight changes in it can be of overwhelming importance to income streams.

As a second point, it is important to note that there can no longer be a passive debt policy in which inaction may be presumed to yield neutral effects. Nor can decisions be made only as required by maturities. The very decisions not to initiate conversions or not to induce shifts in the type of debt holders are themselves forms of action. With the debt a large factor in a dynamic economy, it cannot at any time be ignored.

It also follows that we must have a new set of criteria for debt policy. Minimum interest cost, as Professor Leland has pointed out, as well as an ideal distribution of maturities, may often have to be subordinated to achieve more important objectives. To get away from the fetish of minimum interest, we shall not only need administrative officials fully aware of the implications of their actions, but a public which is not too ready to see in increased interest rates a subsidy to or even a conspiracy with the so-called "financial interests." The new criteria are the same ones involved in any other aspect of fiscal policy.

Whether the immediate subject of consideration is the form of the debt, the maturity schedule, or the interest rate, fundamentally the most important issues in any analysis of the influence of debt are the sources of funds actually tapped and the uses to which they are put. The analogy with taxation is close, in that money is taken out of income streams at certain points and put back in at others. In matters of the debt the problem is more complex because, to a greater extent than in taxation, not only income streams but pools of capital funds and potential credit are also involved. The debt then truly becomes an integral and in many respects a dominant part of our financial structure. Past suggestions for closer co-ordination between Treasury and Federal Reserve policy through some joint agency will become more forceful in the future.

In a footnote Professor Leland notes certain ways in which changes in legislation may open up entirely new areas for debt management. Even though one may temperamentally prefer not to break with tradition, rather fundamental changes seem not unlikely. Various devices to freeze securities into the possession of existing holders have been proposed, as, for instance, requirements that banks and other financial institutions invest a certain proportion of their resources in government securities, or attempts to convert individual holdings into some sort of government life insurance. Any such freezing would, of course, presumably be associated with a policy of spreading the differential in yield between government and other securities by an artificial market for, or an arbitrarily reduced supply of, the governments. Even gradual monetization of some parts of the debt may be reasonably proposed if we have a sufficiently rapid expansion in our economy.

The key to the consideration of postwar debt problems is revealed in the use of the word management in the title of this symposium. The choice of the word is a particularly happy one. Management implies judgment and the appraisal of ever changing situations. It precludes a doctrinaire approach or any complete sets of advance blueprints. Present discussion seems most effective by marshaling, as Professor Leland has done, the many factors which must be recognized by those who have the formidable task of exercising judgment and making decisions to keep the debt no more dangerous or disturbing than is inevitable.

LAWRENCE H. SELTZER: Professor Leland is chiefly concerned with three problems: (1) how to relieve banks and other institutions of the risks of declines in the market prices of government securities; (2) how to relieve the Treasury of the risks and labor of meeting frequent and early maturities; and (3) how to use debt management to moderate cyclical fluctuations in business.

To meet the first problem, he proposes that whenever the prices of its outstanding securities fall appreciably below par, the Treasury should offer to refund them with new securities bearing a sufficiently higher interest rate to make the latter sell at par. To meet the second problem, he would substitute perpetuities, or bonds without maturity date, but callable at any time by the Treasury, for most or all of the outstanding long-term debt. And to meet the third problem, he would have the Treasury try to sell short-term securities, and to banks as much as possible, during bad times and in the early stages of

recovery, in order to increase the supply of money and of money substitutes, while reversing this process at other times.

Professor Leland is willing to go to very great lengths to achieve price stability (but not interest rate stability) for government obligations. To satisfy this first objective, he is apparently willing to sacrifice his second objective entirely, and possibly his third as well; and he is little concerned with the practical difficulties and complications that would be involved. With the usual distribution of maturities over a long period of years, the Treasury must now refinance or pay off in any one year only a small fraction of the total debt—the maturities of that year. And, if conditions are temporarily unfavorable for long-term refunding, it may refinance a maturing long-term issue with short-term debt for the time being. It is free not to anticipate future maturities, and it will do so only when conditions are favorable.

The effect of Professor Leland's proposal, in contrast, would be much like that of making the whole debt mature every time the market prices of government securities dropped a few points below par. It is true that the holders of the depreciated securities could not demand cash payment from the Treasury, as could the holders of matured obligations; but this is only a formal distinction because the refunding securities would be designed to bear high enough rates of interest to enable those who wished to cash them to get par or better in the market. Every market upset, therefore, would contain the threat of a major interest-rate crisis for the Treasury. And what might start out as a temporary rise in market rates of interest such as we experienced in the first four months of 1937 when the yields on long-term government bonds rose from approximately $2\frac{1}{4}$ to $2\frac{3}{4}$ per cent, would soon be officially confirmed as a presumably lasting one by a wholesale refunding at higher rates of the entire public debt.

The market prices and yields on the depreciated Treasury issues, moreover, could not be confidently used as guides to the rates that would be needed on the new securities to maintain them at or above par. In the degree that the market was convinced that the Treasury would shortly refund the existing obligations with new ones bearing higher coupon rates, the prices of the old obligations would resist downward pressure. They would not reflect the "natural" level of interest rates unless the market lost all confidence in the intention of the Treasury to offer the exchange. And the prices (and yields) of the outstanding obligations would also reflect the market's estimate of the level of interest rates the Treasury would offer on the refunding securities.

A bond that carried the right or promise to be replaced by a higher-yielding one if interest rates should rise would obviously be more valuable than one that lacked this feature; and to obtain a *quid pro quo* for the Treasury, Professor Leland would make public announcement of the new policy in connection with each bond issue to which it applied. Obviously, however, a mere announcement of policy by a pro tem Secretary of the Treasury might not be binding upon his successors. To obtain full value for the new feature, the Treasury would have to make it part of the contract, and this would involve a highly specific commitment as to how much under par the bond could go before it would be entitled to a refunding at a higher rate, and as to how long

the Treasury could wait after the bond had reached or passed such a point. In the degree that these stipulations allowed only a narrow range of risk for the investor, the Treasury's potential refunding problems would be magnified, the distinctions between obligations of different maturities would tend to disappear, and all government obligations would become more nearly perfect substitutes for money.

It is conceivable that broad considerations of economic policy might be advanced to outweigh these practical difficulties, but Professor Leland appears to have in view only the narrow objective of providing price stability to financial institutions and other holders of government securities. It would seem that the needs of the banks, to whom price stability in government securities is of far greater significance than to any other class of investors, could be satisfied by less heroic measures. Ample protection would be afforded them by confining their holdings to short-term securities, by making Federal Reserve bank credit readily available to them on loans secured by such short-term obligations, and/or by requiring that banks convert a large part of their present holdings of governments into a special instantly redeemable Treasury obligation which would constitute an additional part of their required reserves, as I proposed a few years ago.¹ For other investors, stability in market prices is of less consequence, and the needed degree of protection against prolonged and major price depreciation can usually be approximated by concentrating holdings in medium-term and nearer maturities. It may be noted that in this case, also, the government rather than the investor assumes some of the risk of rising interest rates, but in a manner that avoids the difficulties and complications of Professor Leland's scheme.

Professor Leland leaves open the question whether his first proposal should be combined with his second—with the substitution of bonds without maturity date but callable at any time at the pleasure of the Treasury, for most or all of the Treasury's long-term bonds. If the two are to be combined, it is difficult to see what real advantage the Treasury would obtain from the absence of a maturity date on the bonds, since the latter would have to be refunded anyhow whenever their prices went below par.

If, on the other hand, the perpetual bonds or perpetuities are not to be refunded at higher interest rates when they decline below par, they will be subject to far wider fluctuations in price, with equal changes in interest rates, than securities of medium-term and shorter maturity, for their prices would altogether lack the stabilizing influence upon the price of a definite and only moderately deferred redemption date. If, in addition to the absence of price protection, the bonds are to be callable by the Treasury at any time, they will lack a feature that many investors prize highly—an assured term of years free from redemption. Professor Leland dismisses this matter lightly by saying that the Treasury can afford to pay for the privileges it gets. But this begs the question whether the privilege is worth the price that may have to be paid for it. The combination of unrestricted callability by the Treasury and complete absence of a maturity date, unless offset by a price guarantee, seems expressly

¹ Lawrence H. Seltzer, "The Problem of Our Excessive Banking Reserves," *Journal of the American Statistical Association*, March, 1940, pp. 24-36.

designed to create the utmost in unattractiveness in a United States government security, and the market could be expected to price it accordingly.²

The fact is, however, that the government needs neither unrestricted callability nor complete freedom from a mandatory maturity date. A call period beginning five to fifteen years from the date of issue and extending for the remainder of the ten to thirty-year terms of the various medium and longer-term issues, combined with a substantial volume of short-term debt, would provide ample flexibility for the Treasury and would provide attractive types of securities for investors. Moderate amounts of perpetuities, callable after a substantial redemption-free term at the Treasury's pleasure, might also have a useful place in a comprehensive debt program, but only if they satisfied a real demand and involved no great additional interest cost. A perpetuity would differ from a thirty-year bond mainly in requiring the investor to bear the whole risk of a rise in interest rates instead of sharing this risk with the Treasury. Conversely, the essential gain to the Treasury would be the freedom to avoid an upward adjustment in its interest costs at the end of thirty years even if the market rates of interest have risen. This is no such transcendental advantage as would warrant forcing perpetuities upon a reluctant market and at high cost. Nor is it by any means clear that this advantage to the Treasury would constitute a net advantage to the economy as a whole, for a sharing of the risks of long-run changes in interest rates between the Treasury and investors greatly limits the degree and duration of possible price depreciation of government obligations, and so limits the evil consequences thereof.

The acute concern sometimes expressed about the Treasury's early and frequent maturities is mainly based upon the well-founded observation that a large floating debt is hazardous for any ordinary borrower. But the federal government is not an ordinary borrower, and a large volume of short-term federal securities is needed under our present monetary arrangements to serve as a source of bank deposits and currency and as secondary reserves for the banks. So long as we depend for most of our money supply upon the deposits created by commercial banks when they acquire assets, a large floating debt on the part of somebody—business or government—is needed to provide the banks with appropriate assets. Long-term government obligations would be much less satisfactory for this purpose than short-term because of their greater price vulnerability and, at present, because of their greater interest cost. Short-term Treasury securities also supply a technical need that is particularly important in our system of numerous independent banks, a need that was formerly but inadequately met by call loans and open-market commercial paper: they provide nationally known, instantly marketable short-term paper that banks may use to make the adjustments in their reserve positions occasioned by local and regional alterations in balances of payments. For the most part, this debt is regularly refunded at each maturity date and is largely retained by the same holders. But the shortness of term provides the holders

²Unless the callability is made nominal and ineffective by a coupon rate well below the actual or probable market rate, as would be the case if, for example, the coupon rate were fixed at 1% and the bonds were marketed at whatever price such a rate would bring. The British have used this device.

with a highly-prized price stability and with a convenient means of quickly altering their individual positions. A market upset or a prolonged rise in interest rates will be more quickly reflected in the Treasury's interest costs to the extent that its debt is short-term, but there is little danger under modern conditions that the government would be unable to meet its maturities by new borrowing. The central banking mechanism of the Federal Reserve System could assure this in an emergency.

Professor Leland's third suggestion—that the Treasury seek to arrange its maturities to appeal to banks during depressions and early in recoveries, in order to increase the money supply—requires little comment because this tends to be the practice in any event. The reverse of this process—how its securities might be transferred from the banks to other investors in good times without violence to the economy—raises a more timely question, and one of great significance for the near-term future of monetary and fiscal policy, but one which Professor Leland, unfortunately, does not discuss.

The

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AMERICAN ECONOMIC ASSOCIATION

(January 18, 1943, to January 8, 1944)

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| 10. Public control of business; public administration; national defense and war | 20. Population; migration; vital statistics |

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ANDJIANO, Peter Barton, 1431 Newton St., N.W., Washington, D.C.

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DOMAR, Evsey D., 3220 Federal Reserve Bldg., 20th St. and Constitution Ave., Washington, D.C.

DONOHUE, Joseph M., 1517 33rd St., N.W., Washington, D.C.

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ERZEN, Nejdet, Sümer Bank, Ankara, Turkey.

ESTEY, Marten Sutherland, 5008 V St., N.W., Washington 16, D.C. A.A.F. of L. res. asst., R. B.A.B., 1940, Purdue. D 17, 5, 18.

ESTREM, Thomas Sahin, Northern Trust Co., 50 S. La Salle St., Chicago, Ill. A Northern Trust Co., vice-pres., A. B.B.S., 1917, Minnesota; M.B.A., 1921, Harvard. D 7, 5, 6.

EXSELS, Carl L. V., 2766 Penobscot Bldg., Detroit 26, Mich.

FABER, Fred Lewis, 1228 Eye St., N.W., Washington 5, D.C. A War Food Admin., asst. agric. econ., RA. B.B.S., 1940, M.S., 1942, Cor-

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FELSTEN, Benjamin E., 311 Webster St., N.W., Washington 11, D.C.

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FLORA, Elbert Courts, Carleton Col., Dept. of Econ., Northfield, Minn.

FLYNN, Oscar Rogers, Jr., 405 E. 54th St., Apt. 12-D, New York, N.Y. A Fin. advisor to corporations, B. B.B.S., 1921, M.S., 1943, Columbia. D 9, 5, 7. E Significance of the capital ratios of commercial banks.

FONG, Hsien Ding, 1759 Lanier Pl., N.W., Washington, D.C.

FORDHAM, Herbert, Oak Farm, Greenport, L.I., N.Y. A Lawyer, R.B. B. Ph.B., 1894, LL.B., 1895, Cornell Univ. D 9, 6. E World politics. G W.

FOULON, Luis A., Facultad de Agronomía y Veterinaria, Universidad de Buenos Aires, Buenos Aires, Argentina, So. Amer.

FRANCE, Royal Wilbur, Rollins Col., Winter Park, Fla. A Rollins Col., T. B.A.B., 1904, George Washington; A.M., 1908, Hamilton; LL.D., 1937, Centro de Estudios de Mexico. C The communal farms of the Laguna (The Emancipator, Feb., 1940). D 3, 18, 1. E Postwar economic organization and planning. F Compromise (Dorrance, 1935); "Why hard times?" Scribner's Mag., Dec., 1930; "Which way prosperity?" Review of Reviews, Dec., 1930.

FRANKEL, S. Herbert, Univ. of the Witwatersrand, Milner Park, Johannesburg, So. Africa.

FULLER, Douglas R., 2302 41st St., N.W., Washington 7, D.C. A U. S. Navy, lieutenant (j.g.). B.A.B., 1928, M.B.A., 1930, Stanford. D 9, 5, 3. F Investments (with G.W. Dowrie) (John Wiley and Sons, 1941).

GAGER, Curtis Harrison, Walter Baker and Co., 1197 Washington St., Dorchester, Mass.

GALENSON, Marjorie Spector (Mrs. Walter), 255 N. Thomas St., Arlington, Va. B.B.A., 1937, Barnard; M.A., 1943, Columbia. D 17, 18. F "The New York labor injunction statute" (with Walter Galenson), Columbia Law Rev., Jan., 1942; "Unemployment compensation in labor disputes" (with Herbert Fierst), Yale Law Jour., Jan., 1940.

GARCIA MONTES, Oscar, Calle C No. 406, entre 17 y 19, Vedado, Havana, Cuba. A Univ.

of Havana, prof., T. B Doctor, 1910, Havana. D 6, 7, 8.

GERLANDO, Peter, 412 Varnum St., N.W., Washington, D.C.

GERSCHENKRON, Alexander, Univ. of California, Dept. of Econ., Berkeley, Calif. A Univ. of California, lecturer, TR. B Doc. rer. Pol., 1928, Vienna. C Crisis of democracy. D 8, 2, 1. E Evolution of state trading. F Bread and democracy in Germany (Univ. of California Press, 1943); "M. Tugan-Baranowski's Theory of co-operatives," 1929, "A. Tschanjanov's Theory of agricultural co-operatives," 1930, Zeitschrift fuer Genossenschaftswesen (Halle).

GIBBS, George, Jr., U. S. Naval Construc. Bn. Replace. and Recup. Center, Camp Parks, Calif. A U. S. Navy, lieut., receiving and general detail officer. B A.B., 1931, Pomona; grad. study at Harvard, California. D 8, 4, 10. E The economic significance of the reciprocal trade agreement program to California (doctoral dissertation).

GIEBINK, Gilbert Gordon, Chamber of Commerce, Minneapolis, Minn.

GILES, James Bernard, Box 363, San Saba, Tex.

GILSON, Mary Barnett, Univ. of Chicago, Chicago, Ill. A Univ. of Chicago, prof. emeritus. D 17. G WS

GINSBURG, C. David, 2500 Que St., N.W., Apt. 513, Washington, D.C.

GORDON, Margaret S. (Mrs. Robert A.), 9315 Ocala St., Silver Spring, Md.

GREENE, Lee S., Univ. of Tennessee, Dept. of Polit. Sci., Knoxville, Tenn. A Univ. of Tennessee, asso. prof., acting head of dept., TR. B B.M., 1927. A.B., 1930, Kansas; M.A., 1932, Ph.D., 1934, Wisconsin; grad. study at Leipzig, Brookings, Michigan. C Direct legislation in Germany, Austria, and Danzig. D 10, 16, 6. E Public employees retirement system in Tennessee; survey of Tennessee public utility law; self-organization of English industry. F Municipal government and administration in Tennessee (with Abbott) (Univ. of Tennessee, 1939); contributor, Employee training in the public service (Civil Service Assembly, 1941).

GREGG, Ronald Eugene, Municipal League of Toledo, 312 Colton Bldg., Toledo, Ohio.

GRIFFITH, Edwin Claybrook, Univ. of Georgia, Col. of Bus. Admin., Athens, Ga. A Univ. of Georgia, asso. prof., acting asst. dean, T. B A.B., 1936, Hampden-Sydney; M.A., 1939, Ph.D., 1940, Virginia. C Some aspects of the economic relations between the tin plate and tin container industries and the canning industry in Virginia. D 1, 8, 10. E Competitive position of raw materials in the postwar world; present significance of the theory of monopolistic competition.

GROAT, George Gorham, Univ. of Vermont, Burlington, Vt.

GRUBBS, W. M., 705 Faculty St., Boone, N.C. A Appalachian State Teachers Col., prof. of econ., T. B M.A., 1931, North Carolina. D 19, 17, 6.

HAHN, L(uclen) Albert, 830 Park Ave., New York, N.Y. A Retired, R. B Dr. Jur., 1913, Dr. Phil., 1917, Marburg. D 7, 5. F Volkswirtschaftliche theorie des bankkredits (1931), Geld und kredit (1924, 1928) (J.C.B. Mohr. Tübingen).

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HARDY, Harold E., Univ. of Missouri, 104 B. and P. A. Bldg., Columbia, Mo.

HARRIGAN, Arthur Washington, Jr., 30 Daniel Low Ter., Apt. 5-B, St. George, St. J., N.Y.

HARRIS, Frank, 4824 Alton Pl., N.W., Washington, D.C.

HARRIS, (Mrs.) Katherine Sharp, Ohio State Univ., Dept. of Econ., Columbus, Ohio. A Ohio State Univ., asst. T. B A.B., 1942, Park. D 8, 1, 2. E Cyclical fluctuations and the theory of international adjustment.

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HARVEY, Edward Feld, Swedesford Rd., Gwynedd Valley, Pa. A Retired, B Royal Col. of Sci., London; Univ. of London. D 5, 7, 19.

HASSELL, Edward Warren, 4202 N. Henderson Rd., Arlington, Va. A Maritime Com. Div. of Econ. and Statis., labor econ., R. D 17, 14, 5. E Postwar maritime and shipyard employment.

HAVLIK, Hubert Frank, 3537 R St., N.W., Washington, D.C.

HAYS, George Allan, 3602 Ordway St., N.W., Washington, D.C. A Civil Service Com., econ. examiner, A. B A.B., 1942, Pittsburgh. D 16, 8, 2.

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- HILL, Samuel S., Jr.**, 1541 Colonial Ter., Arlington, Va.
- HOAG, C. G.**, 619 Walnut Lane, Haverford, Pa.
- HOBBART, George H.**, Alfred Univ., Dept. of Econ., Alfred, N.Y. A Alfred Univ., asst. prof., T. B. A.B., 1908, Michigan; M.A., 1941, North Carolina. D 11, 8, 6.
- HOCHMANN, Arthur**, 1829B 1st St., Suitland Manor, Suitland, Md.
- HOEBER, Francis Packard**, 2108 Key Blvd., Arlington, Va. A OPA, econ., TRA; Graduate School, Dept. of Agric., instr. in statis. (adjunct). B A.B., 1940, Antioch. D 10, 4, 1.
- HOENIGER, Heinrich**, 317 N. Fulton Ave., Mount Vernon, N.Y.
- HOFFENBERG, Marvin**, 5917 16th St., N.W., Washington, D.C.
- HOGAN, Thomas E.**, 25 Holt Pl., Takoma Park, Md.
- HOIBERG, Otto Giede**, Central Col., Fayette, Mo. A Central Col., asso. prof. of soc., T. B. A.B., 1931, Drake; A.M., 1933, Ph.D., 1944, Nebraska. C Sociological effects of the Mead-Wahoo defense area development upon family life. D 18, 20, 19. F Contributor, Americans all: studies in intercultural education (Nat. Educa. Asso., 1942); "The educator and fifth column discretion," School and Society, Sept. 14, 1940; "Cultural conflict and the public school," Jour. of Nat. Educa. Asso., Feb., 1940.
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- ISRAELSEN, Vernon L.**, 2073 E. Ninth St., Cleveland, Ohio.
- JACKSON, Harold M.**, 1800 28th Pl., S.E., Washington 20, D.C. A Burke and Jame, Inc., govt. sales representative, B. B. A.B., 1939, A.M., 1940, Columbia. D 17, 4, 1.
- JACOBSON, Solomon**, 3626 Kings Highway, Brooklyn, N.Y. A OPA, senior econ., A. B. B.S., 1930, City of New York; LL.B., 1931 Columbia; M.A., 1938, Brooklyn. D 17, 6, 11.
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- JAFFE, Grace Mary (Mrs. William)**, Barat College of the Sacred Heart, Lake Forest, Ill.
- JEAN MARIE, Sister**, Immaculata Col., Immaculata, Pa.
- JEFFERY, Stuart**, High St., S., Motueka, N.Z.
- JESSE, Harold Clardy**, 20 Exchange Pl., New York 5, N.Y. A Debevoise, Stevenson, Plimpton and Page, lawyer. B LL.B., 1928, New York Law School. D 6, 17, 9.
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- JOHNSON, Mathews Martin**, 1600 W. Erie Ave., Philadelphia, Pa.
- JOHNSTONE, Susan Parker**, 1701 Swann St., N.W., Washington, D.C. A WPB, econ., A; E. W. Axe and Co., anal., R. B. A.B., 1938, Vassar; A.M., 1939, Columbia. D 3, 9, 6. F A study of the diversified tax systems of the 48 states (Columbia, 1939); An index of production (Time and Life, 1942).
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- JONES, Walter Kiger**, 138 Carroll Ave., Takoma Park, Md. A U. S. Tariff Com., commodity specialist. B A.B., 1940, George Washington Univ.; M.C.S., 1924, Southeastern Univ. (Y.M.C.A.). D 8, 4, 1.
- JORGENSEN, G. L.**, 72 W. Adams St., Room 1548, Chicago 90, Ill.
- JOSEPH, Sister**, D'Youville Col., Buffalo, N.Y.
- JOSEPH, Julius J.**, 2321 Lincoln Rd., N.E., Washington, D.C. A U. S. Army, Office of Strategic Services, pvt., R. B. B.A., 1936, M.P.A., 1938, Michigan. D 10, 18, 17. F An exploratory memorandum on partial unemployment benefits in state unemployment compensation systems (Com. on Soc. Sec., Soc. Sci. Res. Coun., 1940); "An appraisal of the federal state system of unemployment compensation: the need for a federal plan" (with Wm. Haber), Soc. Service Rev., June, 1941; "Manpower mobilization," Sci. and Soc., Winter, 1943.
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- KALB, Seymour**, 97 Arden St., New York, N.Y. A Univ. of Michigan, student. B B.A., 1942, Brooklyn; M.B.A., 1943, Michigan. D 1, 17, 11.
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KEATINGE, Richard H., 2137 Suitland Ter., S.E., Washington 20, D.C. A WPB, Dur. Goods and Prod. Div., Office of Civilian Re-quire, asst. to dir., A. B. A.B., 1939, California; M.A., 1941, Harvard. D 10, 11, 12. E Legal and economic aspects of recent American antitrust policy (doctoral dissertation).

KERRIGAN, Harry D., 2236 Sherman Ave., Evanston, Ill.

KEY, V. O., 2700 Que St., N.W., Washington, D.C.

KIPP, Kendall Joseph, OPA, Lumber Br., 3rd and D St., S.W., Washington, D.C.

KIRSTEN, Mary Helena, 1708 Lamont St., N.W., Washington 10, D.C. A Findlay Re-publican-Courier, newspaper columnist. B. A., 1935, Wisconsin. D 3, 10, 8. E The syndi-cated commentators (doctoral dissertation, Univ. of Chicago). F "Current trends in real estate," Jour. of Land and Pub. Util. Econ. Nov. 1938; "Trends," Jour. of Certified Prop-erty Managers, Dec., 1938.

KLEIN, Jeanne H., 1808 Ontario Pl., N.W., Washington, D.C.

KOENIG, Herman John, H.Q. and H.Q. Sq., 4th E.O.T. Wing, A.A.B., Ardmore, Okla. A U.S. Army, pfc. B. A.B., 1937, M.A., 1940, Chicago. D 10, 6, 5.

KOPELMAN, (Mrs.) Vera Wantman, Jef-ferson Apts., Niagara Falls, N.Y. A Niagara Falls PHA, Educa. Com., member, R. B. A.B., 1939, New York; A.M., 1940, Clark Univ. D 17, 16, 4. E The need for low-rent housing in the city of Niagara Falls.

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KRAUS, Walter Max, 4 West 43rd St., New York, N.Y. A M.C., A.U.S., major, B. A.B., 1910(09), Harvard; A.M., 1914, Columbia; M.D., 1913, Johns Hopkins. D 1, 3, 6. E Book on bio-economics. G W.

LAMDEN, Charles William, 538 Wiltshire Blvd., Dayton 9, Ohio. A U.S.N.R., ens., TA; OPA, bus. econ., TA. B. A.B., 1937, A.M., 1939, California at Los Angeles. D 4, 7, 9. E Legal problems in corporate accounting (doc-toral dissertation). F "The place of accounting in price control," Acctg. Rev., Jan., 1943.

LANGER, Felix Gilbert, 1 Wall St., New York, N.Y. A Lawyer; public accountant. B B.C.S., 1923, New York; LL.B., 1927, Brooklyn Law School. D 4, 11, 5.

LANYON, Alan, R.D. 3, Box 180, Alexan-dria, Va.

LARY, Hal B., 14 Dresden St., Kensington, Md.

LAVALLE, M. E. Quirno, Argentine Em-bassy, Washington, D.C.

LEE, Kan, Chinese Embassy, Washington, D.C. A Chinese Embassy, comm. coun., A. B. A.B., 1922, Missouri; Ph.D., 1927, Harvard. C The concept of capital of British socialists. D 8, 3, 1.

LEE, Laura Veronica, 1212 Girard St., N.W., Washington 9, D.C.

LEHMAN, Robert S., 8910 Colesville Rd., Silver Spring, Md.

LEIKIN, Mitchell, 3140 Leland Ave., Chi-cago, Ill.

LEONHOLDT, Fritz, 4638 S. 31st Rd., Ar-lington, Va.

LEWIS, Robert Miller, 199 Renfrew St., Arlington, Mass.

LIEBERFARB, Sidney, 1727 R St., N.W., Washington 9, D.C.

LIEBLING, Herman I., 1420 Chapin St., N.W., Washington, D.C. A OPA, asso. econ., R. B. A.B., 1940, Brooklyn M.A., 1944, Ameri-

can. D 5, 6, 11. E The contribution of agri-culture to inflation, an analysis of the parity concept and relation to price control.

LILLISTON, Lester F., 745 Forest Ave., Oak Park, Ill. A Northwestern Univ., grad. student; Revere Copper and Brass, Inc., Sales Dept. B B.S.C., 1941, Central Y.M.C.A. Col. D 12, 10, 11.

LÓPEZ-FRESQUET, Rufe A., E No. 409 Vedado, Havana, Cuba. A Treasury, tax ad-visor; lawyer; AB. B Degree in Law, 1933, Mexico National Univ.; Degree in Law, 1934, Degree in Economics, 1937, Havana Univ. D 6, 5, 7.

LUHNOW, Harold William, 230 Main St., Kansas City, Mo.

LURIE, Samuel, 390 Riverside Dr., New York, N.Y. A Hunter Col., temporary instr., TR. B Ingénieur Chimiste, 1927, Université de Gand; M.A. (econ.), 1941, Columbia. D 7, 9, 11. E Private investment and government eco-nomic policy in Nazi Germany (doctoral dis-sertation).

LUTZ, Kathryn, 1916 R St., N.W., Washing-ton, D.C.

LYONS, John Hesley, Enfield Public High School, Soc. Studies Dept., Thompsonville, Conn.

MACRAE, Duncan, Jr., 8 Dana St., Cam-bridge 38, Mass. A M.I.T., Radiation Lab. staff member, R. B. A.B., 1942, Johns Hopkins; A.M., 1943, Harvard. D 8, 17, 1.

MAGILL, Roswell, 15 Broad St., New York, N.Y. A Cravath, de Gersdorff, Swaine and Wood, member; Columbia Univ., prof., T. B. A.B., 1916, LL.D., 1940, Dartmouth; J.D., 1920, Chicago. D 6, 9, 10. F Taxable income (Ronald Press, 1937); The impact of federal taxes (Columbia Univ. Press, 1943). G W.S.

MAGOON, Donald W., 4111 Third Rd., N., Arlington, Va.

MAGOWAN, John Hall, British Embassy, Washington, D.C. A British Embassy, minis-ter, commercial adviser, A. B. B.A., 1915, Trin-ity Col. (Dublin). D 8, 10, 11. F Joint author, Economic conditions in Germany (London: Dept. of Overseas Trade, 1936).

MAGUIRE, T. Paul, 212 Portland Ave., Houston 6, Tex. A OPA, district price officer. B. A.B., 1930, Dartmouth. D 12, 5, 11.

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MARCKS, Oliver D., 2906 E. Jefferson Ave., Detroit, Mich.

MARCUM, (Mrs.) Leocade Leighton, 1728 N. Rhodes St., No. 277, Arlington, Va.

MARCUS, Edward, U. S. Coast Guard Yard, Curtis Bay, Baltimore 26, Md. A U. S. Coast Guard Reserve, Lieut. (j.g.); B. B. S.B., 1939, M.B.A., 1941, Harvard. D 1, 7, 8.

MARGOLIS, Julius, 1334 Intervale Avenue, Bronx, New York, N.Y.

MATHAY, Ismael, The Chalfonte, Apt. 105, 1601 Argonne Pl., N.W., Washington, D.C. A Philippine Nat. Bank, asst. auditor; Govt. of the Commonwealth of the Philippines, tech. asst. to the auditor general of the Philippines, A. B. LL.B., 1924, Philippine Law School. D 6, 7, 5.

MATLOCK, Clifford Charles, 6501 14th St., N.W., Washington 12, D.C. A For. Econ. Ad-min. Bur. of Areas, asst. to the exec. dir., RA. B. A.B., 1932, Stanford; M.A., Littauer Cer-tificate, 1940, Harvard. D 10, 8, 4. F Index numbers of railroad freight rates on perishable agricultural shipments, United States, 1913-38 (1941), Trends in railroad traffic, freight rates,

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MATTHEWS, C. Arnold, U. S. S. Sebec, c/o Fleet Post Office, San Francisco, Calif.

MATTHEWS, Leonidas M., Ships Service Dept., Box 14, Naval Air Sta., Jacksonville, Fla.

MAYER, Joseph H., 1410 M St., N.W., Washington, D.C.

MAYO, Robert P., 327 Parkland Pl., S.E., Apt. 1, Washington 20, D.C. A U. S. Treas., Div. of Res. and Statis., econ. anal., R. B. B.A., 1937, M.A., 1938, Univ. of Washington. D 6, 7, 4.

MCCUTCHEON, George, 3 Univ. Campus, Columbia, S.C.

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McKAY, Richard, 3136 Wellington Rd., Parkfairfax, Alexandria, Va.

McMILLAN, S. Sterling, OPA, 226 W. Jackson Blvd., Chicago 6, Ill. A OPA, regional econ. A; Strong, Cobb and Co., secy-treas., B. B. A.B., 1929, Princeton; M.B.A., 1932, Harvard. D 10, 4, 9.

McPHERSON, William Heston, 909 Highland Dr., Silver Spring, Md.

MEHR, Robert Irwin, Box 482, Chapel Hill, N.C. A Univ. of North Carolina, asst. prof., T. B. B.S., 1938, M.S., 1939, Alabama; Ph.D., 1943, Pennsylvania. C Real estate problems of the life insurance companies (a study of foreclosures and property management). D 9, 7, 18.

MEIER, Gerald, International House, 1414 E. 59th St., Chicago 37, Ill.

MELAMERSON-VANDENHAAG, Ernest R., 58 Morton St., New York, N.Y.

MEYER, Charles H., 4535 5th St., N.W., Washington, D.C.

MEYER, Rauer, 6511 7th Pl., N.W., Washington, D.C.

MEYERS, Frederic, 2044 Fort Davis St., S.E., Washington, D.C.

MILES, John, 1417 N St., N.W., Washington, D.C.

MILLER, (Mrs.) Frances Marmarosh, 2707 Webster St., Mt. Ranier, Md. A U. S. Treas., asso. econ. B B.A., 1931, Hunter; M.A., 1933, Michigan. D 3, 17, 6.

MILLER, John F., 3306 Circle Hill Rd., Alexandria, Va.

MINDLIN, Saul, 3373 Blaine St., N.E., Washington 19, D.C.

MITCHELL, John M., 5110 25th Pl., N., Arlington, Va. A Smaller War Plants Corp., econ. anal., R. B. A.B., 1941, M.A., 1942, Columbia. D 8, 1, 4.

MODEL, Mark, 1076 S. Edison St., Columbia Forest, Arlington, Va. A OPA, econ., RB; RB. B B.S., 1938, City of New York; M.A., 1941, New York. D 12, 3, 1. E Price and rationing in a complex marketing economy.

MODIGLIANI, Franco, 12 Dongan Pl., New York, N.Y. A Bard Col., instr.; New School for Soc. Res., lecturer, T. B. Dr. Juris., 1939, Univ. of Rome. C Theoretical considerations on uniform cost accounting systems for branch of industries. D 1, 4, 5. E Monopoly and unemployment statics and dynamics; relationship between different degrees of imperfection of market for products and unemployment of factors of production.

MOELLER, Charles, Jr., Haggars Lane, Fair Haven, N.J.

MOORE, Frank C., Dept. of Audit and Control, State Office Bldg., Albany, N.Y.

MOORE, Gordon S., c/o Mr. S. S. Evans, Mertzon, Tex. A U. S. Army, Pvt.; Texas A. and M., instr., T. B. B.A., 1941, East Texas State Teachers Col.; M.S., 1943, Texas A. and M. D 1, 9.

MOORE, Henry Russell, Ohio State Univ., Dept. of Rural Econ. and Soc., Columbus, Ohio.

MOROSOFF, Serge P., Pacific Mills, 214 Church St., New York, N.Y. A Pacific Mills, dir. of market res., R. B. A.B., 1925, Columbia. D 11, 12, 19.

MOUNTAIN, William J., 668 Second Ave., San Francisco, Calif.

MULCAHY, Richard E., Alma Col., Alma, Calif. A Univ. of San Francisco, lecturer, T. B. M.A., 1940, Gonzaga. D 1, 7, 17. E Economic theory of Heinrich Peach (doctoral dissertation, Univ. of California).

NAGELBERG, Morton S., 95 Cabrini Blvd., New York, N.Y.

NEFF, Frank Amandus, 1625 N. Vassar, Wichita, Kan.

NEFF, Philip, Haynes Found., 2334 S. Figueroa St., Los Angeles, Calif. A John Randolph Haynes and Dora Haynes Found. B A.B., 1939, Ph.D., 1943, Univ. of California. C Government finance and interest rates. D 6, 7, 1. E Bank liquidity and interest rates.

NELKEN, George J., 983 Park Ave., New York, N.Y. A Interstate Engineering and Machinery Co., partner, B; R. B. Studied at Berlin and London School of Econ. D 8, 7, 9. E The monetary problem in a future organization of peace. F "Importance of Polish market," British Industries (London), 1937.

NELSON, Esther Ethel, Hudson View Gardens, 355, 183rd St. and Pinehurst Ave., New York 33, N.Y. A Hunter Col., instr., T. B. A.B., 1920, M.A., 1922, Ph.D., 1938, Radcliffe. C International trade between gold and silver standard countries. D 19, 8, 2.

NERBOSO, (Mrs.) Ruth Wright, 4635 Hillside Rd., S.E., Washington, D.C.

NICOLS, Alfred, 1 Shaler Lane, Cambridge, Mass. A Student. B A.B., 1941, California at Los Angeles. D 11, 5, 15.

NIEBYL, Karl Heinrich, 640 N. Wabash Ave., Chicago, Ill.

NIXON, John Harmon, 1709 19th St., N.W., Washington, D.C. A OPA, econ., RA. B A.B., 1935, Swarthmore. D 17, 11, 10.

NIXON, Russell Arthur, 325 N. Thomas St., Arlington, Va. A United Electric, Radio, and Machine Workers (C.I.O.), Washington rep. RA. B A.B., 1934, Southern California; M.A., 1938, Ph.D., 1940, Harvard. C The problem of employability: a consideration of certain fundamental aspects of the labor market. D 17, 18, 3. F "Appropriate collective bargaining units: NLRB decisions," Harvard Bus. Rev., Spring, 1939; "Case for industry-wide bargaining," Labor Rela. Reporter, Sept. 7, 1939; "Estimates of unemployment in the United States" (with P. A. Samuelson), Rev. of Econ. Statis., Aug., 1940.

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OSTERRIETH, Helen, Harvard Univ., Littauer Center 235, Cambridge, Mass. A Harvard Univ., res. asst., R. B M.S., 1942, Columbia. D 8, 1, 5.

OSTRANDER, Frank Taylor, Jr., Room 212, Grant Bldg., Pittsburgh, Pa. A Pittsburgh Plate Glass Co., econ. consult.; R. B B.A., 1932, Williams. D 10, 8, 6. F "Maximum defense output and the choice between fiscal and price controls" in Price problems in a defense economy (Conf. on Price Res., 1941).

OSTRUM, Alfred Clarence, 5731 Chestnut St., Philadelphia, Pa. A South Philadelphia Boys' High School, T. B A.B., 1930, Pennsylvania. D 1, 5, 4. E Translation of Pareto's Manual of political economy; underconsumption theories of business crises: a critical history (doctoral dissertation).

OXFENFELDT, (Mrs.) Gertrude E., 1841 Athens St., Boulder, Colo. B A.B., 1939, Barnard; A.M., 1942, Columbia. D 11, 1, 10. E A study of the family background and personal history of the fifty most successful business owners in a small midwestern city.

PADEN, Donald Witt, A-3 Buchanan Bldg., Presidential Gardens, Alexandria, Va. A U. S. Dept. of Com., econ. anal., R; Ohio Univ., instr., T. B B.A., 1935, M.A., 1936, Ph.D., 1942, Iowa. C Economic consequences of a declining rate of population growth. D 1, 4, 11. E Trends in the organization and closure of business firms.

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PASHKE, John W., 4140 36th St., S., Arlington, Va.

PAWLEY, Francis Raymond, 3468 Gunston Rd., Parkfairfax, Alexandria, Va.

PEARSON, Olaf Andrew, 607 Third Ave., S., Minneapolis, Minn.

PENERY, J. E., Jr., Barr Bldg., Room 830, 17th St., N.W., Washington, D.C.

PERINE, Fred Agens, 46 Watson St., Detroit, Mich.

PETERSON, Arthur G., 4362 Hilldale Rd., San Diego, Calif.

PHILIPS, August, 54-56 Threadneedle St., London, E.C. 2, England. A Netherlands Army, capt.; B. W. Blydenstein and Co., partner. B Dr. of Laws, 1930, Leyden Univ. C Economic aspects of reparations and inter-Allied debts (S. C. van Doesburgh, 1930). D 7, 6, 5.

POLINSKY, Ella Joan, 1513 20th St., N.W., Washington, D.C.

POMERANTZ, Sidney Irving, 155 Henry St., Brooklyn, N.Y. A Col. of City of New York, instr., T. B B.S., 1930, City of New York; M.A., 1932, Ph.D., 1938, Columbia. C New York: an American city, 1783-1803 (Columbia Univ. Press, 1938). D 2, 10, 12. F "The patriot newspaper and the American Revolution" in The era of the American Revolution, Studies inscribed to Evarts B. Green (Columbia Univ. Press, 1939).

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POSISIL, Helen Barbara, Asso. of Amer. Railroads, 30 Vesey St., New York, N.Y. A Asso. of Amer. Railroads, econ. anal., R.B. B A.B., 1940, Upsala Col.; M.A., 1942, Clark Univ. D 14, 8, 10. E Postwar competitive transportation.

POWELL, Elmer Ellsworth, 208 E. High St., Oxford, Ohio. A Miami Univ., prof. emeritus of philos. and psych., T. B A.B., 1885, Michigan; S.T.B., 1890, Boston; Ph.D., 1899, Univ. of Bonn. C Spinoza's Gottesbegriff. D 17, 10. E The great American labor union racket; hindrances to straight thinking about social and political problems. G WS.

PUENTE-DUNAY, Rafael Blas, 1930 Pennsylvania Ave., N.W., Washington 6, D.C. A American Univ., instr. in Spanish, T. B Doctor of Civil Law, 1937, Ldo. on Diplomatic and Consular Law, 1938, Doctor of Polit. Econ. and Soc. Sci., 1939, Univ. de la Habana. C The agricultural process and the industrial process, its effects on business cycles; The variable content of "justum" law. D 7, 5, 1. E Neutral money theories.

QUALLS, Le Roy L., 739 N. Elmwood, Oak Park, Ill.

QUANTIUS, Frances Wells, Ohio State Univ., Col. of Com. and Admin., Columbus, Ohio.

QUIGLEY, Carroll, 4472 Reservoir Rd., N.W., Washington 7, D.C.

RABINOWITZ, Susannah, 1309 Decatur St., N.W., Washington, D.C. A WPB, asst. econ., R. B B.A., 1940, Hunter. D 1, 4, 17.

RADIUS, Walter A., 3030 Newark St., N.W., Washington 8, D.C. A Dept. of State, prin. econ., R. B A.B., 1932, M.B.A., 1934, Ph.D., 1942, Stanford. C United States shipping in trans-Pacific trade, 1922-38 (Stanford Univ. Press, 1944). D 14, 8, 10. F "Play of petroleum forces in Far East," Sept., 1938, "Japanese shipping tightens grip on raw silk trade," May, 1939, Far Eastern Survey.

RAMSEY, Fredlyn, 2229 Bancroft Pl., N.W., Washington 8, D.C.

RANSMEIER, Joseph Siler, 817 Fendall Ave., Charlottesville, Va.

RAYMOND, Fred Ingalls, 629 W. Washington Blvd., Chicago 6, Ill. A F. I. Raymond Co., owner. B B.B.S., 1917, Northwestern. D 3, 10, 8. E Limiting the size or extent of business organizations.

RECORD, Cy W., 10 Pine Circle, N.E., Atlanta, Ga.

REINERTSEN, Peter Amos, 3500 39th St., N.W., Washington 16, D.C. A OPA, head of Tungsten and Molybdenum Units, A; sole proprietorship; Liberty Loan Corp., secy., treas., dir., B. B A.B., 1908, A.M., 1910, Augustana Col. D 9, 11, 4.

REINHARD, Milton E., 5301 Massachusetts Ave., N.W., Washington, D.C.

RICH, Leo Herbert, 444 Madison Ave., New York, N.Y. A Walter Dorwin Teague, assoc., B. B Univ. of Pennsylvania, 1924, D 3, 16, 12. E Opportunities for industrial developments and effects of new products in postwar period. F "Prewar products in postwar," Fortune, July, 1943; "Employment quotas," Iron Age, Mar., 1943; "Jobs after the war," Yank, July, 1943. G W.

RICHARDSON, John Houlkes, Office of Australian Govt. Trade Com., 630 Fifth Ave., New York, N.Y. A Office of Australian Govt., asst. to the commissioner; Australian Dept. of Com. and Agric., admin. officer, A. B B.A., 1937, Univ. of Queensland. D 15, 8, 3.

RICHTMAN, Leonard David, 803 Park Shore Apts., 1755 E. 55th St., Chicago, Ill.

RIGRUTSKY, William, 6201 Bay Pkwy., Brooklyn, N.Y. A Brooklyn Col., Dept. of Econ., instr., T; New York State Dept. of Labor, senior minimum wage investigator. B B.A., 1935, LL.B., 1939, Brooklyn; M.B.A., 1937, City of New York. D 17, 18, 4.

RIPPS, Evelyn L., 1833 Park Rd., N.W., Washington 10, D.C. A OPA, asso. econ., R: D 6, 16, 8.

RITZ, Philip Milton, 1271 New Hampshire Ave., N.W., Washington, D.C. A OPA, econ. statis.; Civil Service, RA. B B.E., 1937, Mil-

waukee State Teachers Col.; Ph.M., 1939, Wisconsin. D 4, 10, 11. E Price control.

ROBERTS, Frank La Rue, 823 Alabama St., Vallejo, Calif. A U.S.N.R., Lieut. (J.G.), O-V (S); H. B. Mills and Co., semi-senior auditor. B B.S. in B.A., 1938, Arkansas; M.B.A., 1940, Texas. D 4, 5, 1. E Prospective Ph.D. candidate, Univ. of Southern California.

ROBERTSON, Harrison M., 1600 W. Hill St., Louisville, Ky.

RODES, Basil C., 1920 S St., N.W., Washington, D.C.

ROEPER, George Alexander, 668 Pallister, Detroit, Mich.

ROQUE, Manuel R., 112 Adams St., N.W., Washington, D.C.

ROSDEN, George Eric, 914 Kennedy St., N.W., Washington, D.C.

ROSE, Agustín Olaz, Insurgentes 360, Mexico, D.F. B B.S., 1934, C.P.A., 1939, Licenciatura in law 1942, Nat. Univ. of Mexico. C Los Costos Std. en el Cemento, 1939; El Fideicomiso, 1942 (Univ. of Mexico). D 8, 6, 4.

ROSENFELD, Mark N., Spencerville, Md. A OPA, Processed Foods Br., chief econ., R. B A.B., 1933, Harvard. D 11, 3, 1. E The analysis of monopoly and other problems (doctoral dissertation).

ROSS, Morris Allan, 3816 Davis Pl., N.W., Washington 7, D.C. A OPA, econ., R. B A.B., 1934, Brooklyn. D 11, 6, 10. E Selected problems of wartime control in the lumber industry.

ROTH, Rolf W., Legation of Switzerland, 1601 Fuller St., N.W., Washington 9, D.C. A Legation of Switzerland, Dept. Foreign Interests, asst. to chief; Legation's delegate for prisoners of war, A. B. Baccalauréat ès lettres, 1935, College de Fribourg; Dr. rer. pol., 1940, Univ. of Bern. C Industrial development of the Balkan countries since 1921. D 8, 11, 2. E American industrial management.

ROWE, Richard Grant, 658 S. Sycamore St., Los Angeles, Calif.

SALINGER, Joseph, 353 E. 77th St., New York, N.Y.

SANDELIN, G. Lincoln, 1412 Spring Rd., N.W., Washington, D.C.

SARD, Edward L., 3014 Gainesville St., S.E., Washington, D.C. A WPB, Bur. of Plan. and Statist., senior econ., R; T. B A.B., 1933, Cornell Univ.; A.M., 1936, Columbia. D 3, 10, 19. E The black market (doctoral dissertation, Columbia Univ.). F "How Britain does it," Amer. Federationist, Aug., 1943; "Shopping in 1943," Nation, May 1, 1943; What does the war mean to you? (Soc. Stud. Pub. Co., 1942).

SACASA, Antiocho, 1912 N. High St., Apt. D, Columbus 1, Ohio. A Ohio State Univ., student, R. B Bachiller en Ciencias y Letras, 1933, Instituto Nacional de Occidente, León; Doctor en Derecho, Abogado y Notario, 1939, Universidad de León. C Investigación de la Paternidad Ilegítima (Tipografía "Los Hechos," 1938). D 8, 2, 15. E Balance of trade of Nicaragua.

SCHNEIDER, Charles Franklin, III, Box 54, R.F.D. 4, Alexandria, Va. A War Dept., Stock Control Div., H.Q. Army Service Forces, capt., A; Univ. of Georgia, instr. of econ., T. B B.S.C., 1938, M.S.C., 1940, Georgia. D 5, 4, 6.

SCHIFF, Marie S. (Mrs. Erich), 1426 Saratoga Ave., N.E., Washington, D.C.

SCHLENKER, Anna A., 3717 Legation St., N.W., Washington, D.C.

SCHUBART, William Howard, 44 Wall St., New York, N.Y. A For. Econ. Admin.; Lazard Freres and Co., partner. A D 8, 3, 6.

SCHWARTZ, Sam, 15 Goodwin Ave., Newark, N.J.

SEIBEL, Laurence Elias, 1652 Argonne Pl., N.W., Washington 9, D.C.

SEITZER, Lee, 1747 Galen St., S.E., Apt. 4, Washington, D.C. A WMC, senior ind. anal.; R. B A.B., 1941, New York; A.M., 1942, Clark Univ. D 17, 5, 8. F "Labor market problems in

the shipbuilding industry," Labor Market, May, 1943, Jan., 1944.

SELLIE, Clifford N., George S. May Co., 840 N. Michigan Ave., Chicago, Ill.

SETHUR, Frederick, 1560 Metropolitan Ave., Bronx, New York 62, N.Y.

SEYMOUR, Helen V., 1916 G St., N.W., Washington, D.C. A ODT, Program Plan. Sec., Div. of Transport Personnel, asst. chief, B B.A., 1936, Cincinnati; M.A., 1937, Chicago. D 17, 10, 18. F When clients organize (mono., Amer. Pub. Welfare Asso., 1937).

SHAPIRO, Aaron Seymour, 1293 Brentwood Rd., N.E., Washington, D.C.

SHAW, Alejandro E., Charcas 682, Buenos Aires, Argentina, So. Amer.

SHEVELAND, Oliver E., Carroll Col., Waukesha, Wis. A Carroll Col., prof. econ., RT. B B.A., 1916, St. Olaf; M.B.A., 1927, Northwestern; Ph.D., 1937, Iowa. C Certain economic attitudes of Theodore Roosevelt. D 12, 5, 1. E College textbook on salesmanship. G S.

SHURBERG, Merwin, c/o Rabbi I. L. Kaplan, 1467 Challen Ave., Jacksonville 5, Fla.

SHUTE, John, OPA, Iolani Palace, Honolulu, T.H.

SILVANIA, Haig, 2141 Eye St., N.W., Washington, D.C. A OPA, econ.; Brooklyn Col., instr., T. B A.B., 1920, Clark Univ.; A.M., 1921, Ph.D., 1939, Columbia. C Responsibility of states for acts of insurgent government (Columbia Univ. Press, 1939). D 8, 16, 11. F "Responsibility of states for acts of insurgent government," Amer. Jour. of Int. Law, 1939; Problems of postwar economy (Brooklyn Col. Bur. of Econ. Res. Bul., 1942).

SILVANIA, Sarah Roche (Mrs. Haig), 2141 Eye St., N.W., Washington, D.C. A War Dept., asst. stat. B B.B.A., 1941, City of New York. D 16, 14, 4.

SMITH, A. Laurence, 1108 Van Dyke Ave., Detroit, Mich.

SMITH, Russell Roland, 7302 Flower Ave., Takoma Park 12, Md. A Dept. of Agric., asso. stat., B. D 9, 4, 1. E Stock market forecasting.

SMITH, Tynan, 3101 Pennsylvania Ave., S.E., Washington 20, D.C.

SMITH, Victor R., Confederation Life Asso., 12 Richmond St. E., Toronto, Ont., Canada.

SMUL, Kathryn (Mrs. Philip Arrow), 2012 Meyers Rd., Detroit, Mich.

SOBIN, Bernard, Co. A, A.S.T.U. 1189, Room 227 St. Mary's Hall, Chestnut Hill 67, Mass. A A.U.S., sgt.; U. S. Civil Service, asst. econ., R. B B.S. in S.S., 1938, City of New York. D 10, 8, 3.

SPERLING, Celia, 1749 Lanier Pl., N.W., Washington, D.C. A OPA, econ., R; R. B A.B., 1938, Brooklyn; A.M., 1939, Columbia. D 6, 16, 11.

SPERO, Herbert, 17 Lexington Ave., New York, N.Y. A Col. of the City of New York, instr., T. B B.B.A., 1929, City of New York; M.C.S., 1931, New York; Ph.D., 1939, Columbia. C Reconstruction Finance Corporation loans to the railroads, 1932-37 (Bankers Pub. Corp.). D 7, 9, 5. E Future of banking. F "The danger of postwar inflation," J.P.E., Aug., 1943; "Danger-savings bonds and idle cash," Bankers Mag., June, 1943; Money and banking (mono., Thomas Nelson and Sons, 1937).

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SPITZER, Frederick Irwin, 6315 Waldron St., Pittsburgh 17, Pa. A Westinghouse E. and M. Co., quality control inspection, R; Univ. of Pittsburgh, student, B A.B., 1943, Pittsburgh. D 8, 4, 16. E Possibilities for the cultivation of spices in the western hemisphere.

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- STANG, (Sister) M. Blandina**, Aquinas Col., Grand Rapids, Mich. A Aquinas Col., registrar and instr., T.A. B.B.S., 1933, De Paul. D 1, 10, 17.
- STEIN, Thelma**, Mayflower Hotel, 6125 S. Kenwood Ave., Chicago, Ill.
- STOCKER, Norman Robert**, 13221 Cherrylawn Ave., Detroit 4, Mich. A WPB, admin. asst., RA; R. B B.S., 1938, Detroit; M.A., 1940, Georgetown. D 17, 2, 1.
- STONE, Robert Elwin**, 1600 S. Barton, Apt. 754, Arlington, Va. A OPA, hist. records officer, RA; Univ. of California, lecturer, T. B A.B., 1916, J.D., 1924, California. C Community property law, criminal law, and letters of credit (Calif. Law Rev., 1921-24). D 18, 14, 7. F Business and property law (Foundation Press, 1941); "Low cost legal service," Calif. State Bar Jour., 1940-41; "Constitutionality of small loan laws," Calif. Law Rev., 1939-40.
- STRAUSS, William Victor**, 219 Hearne Ave., Cincinnati, Ohio. A Paris Shops, controller, B. B A.B., 1928, M.B.A., 1930, Harvard. D 6, 5, 9. F "Great Britain's war finance," Common Sense, 1942; "Wartime fiscal policy," Antioch Rev., 1942; "The national debt," Amer. Scholar, 1942.
- STROTZ, Robert Henry**, Leland Hotel, Aurora, Ill. A U. S. Army, pfc. B A.B., 1942, Chicago. D 3, 5, 1.
- SU, Tsai-Shan**, 1010 W. Illinois St., Urbana, Ill. A Illinois Univ., student; Ministry of Communication, China, transp. eng., A. B. B.S., 1933, National Chiao-Tung Univ.; M.S., 1943, Illinois. D 14, 10, 1. E Advantages and disadvantages of highway transportation.
- SZATROWSKI, Zenon**, Northwestern Univ., 1822 Sheridan Rd., Evanston, Ill. A Northwestern Univ., Dept. of Econ., instr. B B.S., 1936, M.A., 1937, Indiana; Ph.D., 1942, Northwestern. C Solutions of some integro-differential equations. D 4, 5, 1. E Effect of past consumption on present demand for meat. F "A problem in phase rule," Indiana Math Asso. Proceedings, Spring, 1937.
- TAKAHASHI, Shigeharu**, 5738 Drexel Ave., Chicago, Ill. A Univ. of Chicago, student. B A.B., 1943, Ohio Univ. D 1, 4, 8.
- TALBOT, Homer**, 1230 Hudson St., Denver 7, Colo.
- TARASOV, Helen**, 2100 19th St., N.W., Washington, D.C. A Office of Strategic Services, econ., R. B B.A., 1936, Western Reserve; M.A., 1937, Fletcher School of Law and Diplomacy. D 6, 19, 3. E Economics of consumer co-operatives (doctoral dissertation). F Who pays the taxes? (mono., TNEC, 1940); "Who does pay the taxes?" Soc. Res., Sup. 4, 1942; "Family allowances: an Anglo-American contrast," Annals May, 1943.
- TAYLOR, Wayne Chatfield**, 1743 22nd St., N.W., Washington, D.C. A Dept. of Com., undersecretary, A. B A.B., 1916, Yale. D 8, 6, 1. G WL.
- THATCHER, Lionel Willmot**, 114 Kingsley Ave., Bethesda, Md. A WPB, Prog. Bur., chief econ. B B.S., 1925, Utah State Agric. Col.; Ph.D., 1938, Wisconsin. C Development of public utility regulation in Utah (in part in Jour. of Land and Pub. Util. Econ.). D 14, 10, 6. F "Valuation by legislative feat," Aug., 1939, "Financial and depreciation history of the Utah Power and Light Company," Nov., 1939, Feb., 1940, Jour. of Land and Pub. Util. Econ.
- THEOBALD, Adrian D.**, 2705 9th St., S., Arlington, Va.
- THIELECKE, Walter L.**, 1628 Telephone Bldg., 1010 Pine St., St. Louis, Mo. A Southwestern Bell Tel. Co., gen. statis., B. B B.S., 1927, Missouri. D 14, 5, 4.
- THOM, William Richard**, 1270 11th, N.W., Canton, Ohio. A Lawyer, B Georgetown Law School, 1916. D 5, 17, 18. G W.
- THOMPSON, Charles Dederer**, Mt. Hermon School, Mt. Hermon, Mass.
- THORSON, Ivan A.**, 724 S. Spring St., Los Angeles, Calif. A Ivan A. Thorson Org. (research), ed. dir., T; Realty Res. Bur., pres., RAB. B A.B., Luther; grad. study, Johns Hopkins. D 16, 6. E How to evaluate my property for taxation and assessment purposes. F Essentials of California real estate law, etc. (1943). Economics of real estate (law) and simplified approval system (1942) (Realty Res. Bur.).
- TIMBERG, Sigmund**, 2519 39th St., N.W., Washington, D.C.
- TOWSLEY, Frank Hathaway**, 195 Broadway, New York, N.Y. A Amer. Tel. and Tel. Co., atty. B A.B., 1913, Tufts; LL.B., 1919, George Washington Univ.; LL.B., 1921, Columbia. D 14, 1, 9. E The courts as a co-ordinate part of the administration process.
- TREDWELL, Thomas Alanson**, 16 Crows Nest Rd., Bronxville, N.Y. A F. W. Dodge Corp., asst. vice-pres.; Architectural Record, Mag. Div., adv. mgr., B. B A.B., 1923, Wisconsin; M.A., 1942, New York. D 12, 16, 2.
- TRIPP, Chester Dudley**, 310 S. Michigan Ave., Room 1616, Chicago, Ill. B Ph.B., 1903, Yale. D 13, 5, 2.
- TRUCKSESS, Elizabeth D.**, 42 Independence Ave., S.W., Apt. 406, Washington, D.C.
- TURNBULL, John Gudert**, 4442 N. Oakland Ave., Milwaukee, Wis.
- UHALT, Alfred Hunt**, 220 Eureka Ave., Jackson, Miss.
- VALENCIA CARDENAS, José**, Edificio "Sud-America," Segundo Piso, Plaza San Martín, Lima, Peru, So. Amer. A Universidad Católica de Lima, catedrático; abogado, TB. B Abogado, 1927, Doctors degrees in phil., econ., and law and polit. econ., Universidad de Arequipa. C Proyecto de unificación de legislación comercial hispanoamericana; Proyecto de creación de Banco Minero en el Perú; Causas económicas de la emancipación peruana. D 2, 1, 10. E Geo-economía del Perú. F Circulación de la Riqueza (Universidad de San Marcos, imprenta Sanmartí y Cia., 1939); Hacia el Hispano o Iberoamericanismo Jurídico (Universidad de Arequipa, imprenta "La Bolsa," 1929).
- VALENSTEIN, Cornelia (Mrs. Samuel)**, Crompond, N.Y.
- VANDERMEULEN, Alice John (Mrs. Daniel C.)**, 86 Foster St., Cambridge 38, Mass. A Wellesley Col., instr. B A.B., 1939, Bryn Mawr. D 8, 7, 4.
- VAUGHN, James Abbott**, 232 North Rd., Bedford, Mass. A Boston Univ., A.S.T.P., instr.; Vermont Academy, hist. and soc. sci. teacher. B B.B.A., 1932, M.B.A., 1939, Boston; LL.B., 1937, Suffolk. D 2, 1, 17.
- Von HAUNALTER, Eberhart**, 211 E. 71st St., New York, N.Y. A Wine Shippers Import Corp., adv. mgr., B. B Univ. of Vienna, 1930; fellow, Univ. of Cincinnati, 1930-32. D 8, 16, 15.
- VOSS, Wellington Joseph**, 439 Ingraham St., N.W., Washington 11, D.C. A WPB, econ. statis., R; Amer. Fed. of Gov. Emp., res. asst. to pres., R. B M.A., 1942, Catholic Univ. D 4, 17, 10. E Development of statistical method in the United States.
- WALLACE, Mattie Louise**, 2032 Belmont Rd., N.W., Washington, D.C.
- WALRADT, David**, 411 W. 10th Ave., Columbus 1, Ohio.
- WARNER, Doris Plass (Mrs. Donald A.)**, 4815 N. Capitol St., Apt. 302, Washington, D.C.
- WARREN, Edgar L.**, War Labor Bd., 1100 Fidelity Bldg., Kansas City, Mo.
- WARREN, Forest Glen**, 4102 N. Third Rd., Arlington, Va. A For. Econ. Admin., econ., RA. B B.A., 1937, Purdue; M.S., 1939, Illinois. D 15, 12, 4. E Economic significance of the futures market for soy beans (doctoral dissertation).
- WARREN, Gerald Emery**, 718 E. Seminary, Greencastle, Ind.

WATSON, George Henry, 1357 E. 50th St., Chicago, Ill.

WELL, Felix Lucio José, 429 W. 117th St., New York 27, N.Y. A Columbia Univ., Inst. of Soc. Res., member; Latin American Econ. Inst., dir., R. B. Dr. rer. pol., 1920, Univ. of Frankfurt. C Sozialisierung (Berlin, 1920). D 3, 2, 6. E Economic problems of Argentina; Argentina at the crossroads—industrialization versus agrarian economy. F Argentina's labor movement (Leipzig, 1925); Argentina's income tax (G. Kraft, Buenos Aires, 1933); co-author, Memoria 1933-34 de la Comisión de Racionalización de la Administración Nacional (Buenos Aires, 1934). G W.

WELL, Rolf Alfred, 1162 E. 54th Pl., Chicago 15, Ill. A Cowles Com. for Res. in Econ., res. asst., R. B. B.A., 1942, Chicago. D 7, 6, 1. E Study on the impact of price control on business.

WEINER, Mervyn L., 1120 Lajoie Ave., Outremont, Que., Canada. A Royal Canadian Artillery, lieut. B B.Com., 1943, McGill. D 12, 10, 4.

WELDEN, John, P.O. Box 57, Pittsburgh, Pa.

WELLISZ, Leopold, 120 Cabrini Blvd., New York, N.Y. A Gov. of Poland, London, advisor to the minister of finance. A; First Locomotive Works of Poland, pres., B. B.B.L., 1912, Univ. of Kieff. D 8, 1, 11. E American postwar economic planning. F Foreign capital in Poland (George Allen and Unwin, Ltd., London, 1938). G 1.

WELLMAN, Harry Richard, Univ. of California, 207 Giannini Hall, Berkeley, Calif.

WERTHEIMER, Robert George, 26 Gray Gardens, Cambridge, Mass. A U. S. Army, Pvt. B. Dr. ut. Jur., 1933, Vienna; 1940-42, Harvard. C The unemployment problem in the postwar economy. D 8, 16, 6. E Economic relations between Europe and South America; the reconstruction of the European trade relations in the postwar period. F "Free trade vital to post-war security," Christian Science Monitor, Oct. 21, 1942.

WHITE, Melvin L., 509 W. 121st St., New York, N.Y. A Columbia Univ., fellow, R. B. B.A., 1943, Cincinnati. D 1, 6, 19. E Study of the growth of the natural gas industry.

WHITING, James Woodward, 1745 N. Gramercy Pl., Hollywood 28, Calif. A Lockheed Aircraft Corp., staff asst., B. B. B.S., 1938, California at Los Angeles. D 14, 4, 9.

WICKIZER, Vernon Dale, Food Research

Inst., Stanford University, Calif.

WILLCOX, Walter Francis, 3 South Ave., Ithaca, N.Y. A Cornell Univ., prof. emeritus, TR. B. A.B., 1884, A.M., 1888, LL.D., 1906, Amherst; LL.B., 1887, Ph.D., 1891, Columbia. C The divorce problem: a study in statistics (Columbia Univ. Studies, 1891, 1897). D 20, 4. E History of federal apportionment. F Eleventh census supplementary analysis (U. S. Census Office, 1906); "Apportionment of representatives," A.E.R., Mar. sup., 1916 Studies in American demography (Cornell Univ. Press, 1940). G W.S.

WILLIAMS, Ernest W., Jr., 6427 16th St., N.W., Washington, D.C. A WPB, senior econ., R. B. B.S., 1938, M.S., 1939, Columbia. D 14, 16, 2. F Contributor, Transportation and national policy (Nat. Res. Plan. Bd., 1942); "The Outlook for domestic air transport," 1943, "The Outlook for the railroad industry," 1943, Nat. Plan. Assn.

WINGFIELD, Daisy (Mrs. William H.), 323 Park Ave., Kirkwood, Mo.

WOLFERT, Ruth Elaine, 125 Prospect Park W., Brooklyn 15, N.Y. A Student, R. D 1, 5, 7. E Converting from a wartime to a peacetime economy.

WRIGHT, Milton S. J., Wilberforce Univ., Wilberforce, Ohio. A Wilberforce Univ., prof. of econ., dept. head; Div. of the Soc. Sci. chair; T. B. A.B., 1926, Wilberforce; A.M., 1928, Columbia; Ph.D., 1932, Univ. of Heidelberg. C The economic development and native policy of the former German African colonies, 1884-1918 (Buchdruckerei E. Bechstein, Wertheim a/m, 1932). D 1, 2, 17. E An analysis of economic problems among college and university teachers. F A critique of the theories of supply and demand (Liverpool Pub. Co., 1932); "The economic history of the American negro," Service Mag., June, 1939. G S.

WU, Yung-Shun, 6040 S. Ellis Ave., Chicago, Ill. B 1931-35, Customs Col., China; M.A., 1943, Wisconsin; grad. study, 1943—, Chicago. D 8, 15, 7.

YOUNG, H. C., 404 Black Bldg., Fargo, N.D. **YOUNGDAHL, C(arl) Richard**, 1028 Connecticut Ave., Washington, D.C.

ZARET, Harold, 3104 19th St., N.W., Washington 10, D.C. A WPB, asso. econ., RA. B. A.B., 1939, Columbia. D 1, 3, 7.

ZWANZIG, Otto Ernst, 168 Oakridge Ave., Nutley, N.J. A General Cable Corp., elec. eng. B. B.S., 1935, M.S., 1937, M.I.T. D 5, 10, 3.

Brand, T.E.
Cahn, F.B.
Cascino, A.
Dodd, J.H.
Felton, J.R.
Griffith, E.C.

Clough, S.E.
deRoover,

Blanchard,
Cooper, J.B.
France, K.V.
Johnstone

Berretton,
Bronfenb.
Brown, E.H.

Davidson,
Harvey, E.

Adler, H.A.
Bardes, P.
Bauer, C.C.
Catozella,
Caverly, E.
Cohen, J.B.

Baldwin,
Bernt, H.A.
Blomberg,
deFremer,

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Brownlee,
Cairns, A.
Cameron,
Cloe, C.W.
Dye, A.V. 2
Ellsworth,
Fisher, A.C.
Gerschen,
Gibbs, G.Jr.

9. BUSI

Bingham,
Flynn, O.R.
Fordham,

CLASSIFICATION OF MEMBERS

1. ECONOMIC THEORY; GENERAL WORKS

Brand,TEM 6,17
Cahn,FB 6,3
Cascino,AE 4,7
Dodd,JH 3,19
Felton,JR 10,5
Griffith,EC 8,10

Heany,DF 4,2
Kalb,S 17,11
Kraus,WM 3,6
Marcus,E 7,8
McGann,PW 4,5
Modigliani,F 4,5

Moore,GS 9
Mulcahy,RE 7,17
Nussbaum,FL 8,16
Ostrum,AC 5,4
Paden,DW 4,11
Rabinowitz,S 4,17

Stang,MB 10,17
Takahashi,S 4,8
White,MI 6,19
Wolford,RE 5,7
Wright,MSJ 2,17
Zaret,H 3,7

2. ECONOMIC HISTORY

Clough,SB 3,10
deRoover,RA 1,7

Engers,JF 8,3
Hardin,RR 8,5

Heckscher,EF 8,7
Pomerantz,SI 10,12

Vaughan,JA 1,17

3. ECONOMIC SYSTEMS; NATIONAL ECONOMICS

Blanchard,FS, 11,5
Cooper,JB 7,12
France,RW 18,1
Johnstone,SP 9,6

Kirsten,MH 10,8
Miller,FM 17,6
Raymond,FI 10,8

Rich,LH 16,12
Sard,EL 10,19
Strotz,RH 5,1

Valencia Cárdenas,J
1,10
Weil,FLJ 2,6

4. STATISTICS; ECONOMIC MATHEMATICS; ACCOUNTING

Berrettoni,JN 7,5
Bronfenbrenner,JA 5,1
Brown,EH 6,7

Butterbaugh,GI 10,16
Cook,PH 14
Cudmore,SA 6,18

Lamden,CW 7,9
Langer,FC 11,5
Ritz,PM 10,11

Roberts,FL 5,1
Szatrowski,Z 5,1
Voss,WJ 17,10

5. BUSINESS CYCLES AND FLUCTUATIONS

Davidson,CFJr 6,4
Harvey,EF 7,19

Hersey,AB 8,2
Liebling,HI 6,11

Parker,SS 11,10
Scheider,CFIII 4,6

Thom,WR 17,18
Zwanzig,OE 10,3

6. PUBLIC FINANCE; FISCAL POLICY; TAXATION

Adler,HA 20,5
Bardes,P 4,9
Bauer,CC 8,10
Catozella,VA 9,4
Caverly,HL 5
Cohen,JB 3,2

Desmond,TC 3,9
Garcia Montes,O 7,8
Hanellin,HJ 7,1
Herbert,CP 10,18
Jesse,HC 17,9

Jones,MV 5,10
Lopez-Fresquet,RA 5,7
Magill,R 9,10
Mathay,I 7,5
Mayo,RP 7,4

Neff,P 7,1
Ripps,EL 16,8
Sperling,C 16,11
Strauss,WV 5,9
Tarasov,H 19,3

7. MONEY AND BANKING; SHORT-TERM CREDIT

Baldwin,CFJr 17,11
Berat,HA 8,6
Blomberg,CL 4,1
deFremery,R 5,8

Estrem,TS 5,6
Hahn,LA 5
Hernandez,J 6,5

Jacoby,NH 9,6
Lurié,S 9,11
Phillips,A 6,5

Puente-Duany,RB 5,1
Spero,H 9,5
Weil,RA 6,1

8. INTERNATIONAL TRADE, FINANCE, AND ECONOMIC POLICY

Brownlee,RH 10,11
Cairns,A 15
Cameron,TCJr 10,2
Cloe,CW 2,16
Dye,AV 2,3
Ellsworth,PT 5,1
Fisher,AGB 11,3
Gerschenkron,A 2,1
Gibbs,GJr 4,10

Harris,KS 1,2
Heller,VK 10,19
Hoselitz,BF 1,5
Jones,SV 11,12
Kahn,WK 4,1
Kahn,AE 5,11
Lee,K 3,1
MacRae,DJr 17,1
Magowan,JH 10,11

Mitchell,JM 1,4
Nelken,GJ 7,9
Oehlert,BHJr 6,10
Osterrieth,H 1,5
Rose,AO 6,4
Roth,RW 11,2
Sacasa,A 2,15
Schubart,WH 3,6

Silvanie,H 16,11
Spitzer,FI 4,16
Taylor,WC 6,1
Vandermeulen,AJ 7,4
Von Haunalter,E 16,15
Wellisz,L 1,11
Wertheimer,RG 16,6
Wu,YS 15,7

9. BUSINESS FINANCE; INSURANCE; INVESTMENTS; SECURITIES MARKETS

Bingham,VA 7,3
Flynn,ORJr 5,7
Fordham,H 6

Fuller,DR 5,3
Hughes,EG 14,4

Jones,TC 14,1
Mehr,R.I. 7-18

Reinertsen,PA 11,4
Smith,RR 4,1

10. PUBLIC CONTROL OF BUSINESS; PUBLIC ADMINISTRATION; NATIONAL DEFENSE AND WAR

Beckwith,RP 1,2
Bobbitt,EC 11,4
Brennan,AT 3,5
Clabaugh,SF 8,9
deCapriles,MA 4,11

Egand,LM 3,4
Greene,LS 16,6
Hoerber,FP 4,1
Joseph,JJ 18,17

Katz,N 4,3
Keatinge,RH 11,12
Koenig,HJ 6,5
Malick,CP 11,17

Matlock,CC 8,4
McMillan,SS 4,9
Ostrander,FT Jr 8,6
Sobin,B 8,3

11. INDUSTRIAL ORGANIZATION; PRICE AND PRODUCTION POLICIES; BUSINESS METHODS

Bain,JS 1,10
Brown,LH 6,12
Bucy,EH 12,17

Firfer,A 10,6
Hobart,GH 8,6
Morosoff,SP 12,19

Nicola,A 5,15
Oxenfeldt,GE 1,10

Rosenfelt,MN 5,1
Ross,MA 6,10

12. MARKETING; DOMESTIC TRADE

Bitting,HW 3,4
Bliss,P 11,2
Bradford,ES 11,19
Clark,CM 15,7

Davison,CN 1,11
Faber,FL 19,11
Fiske,DL 10

Lilliston,LF 10,11
Maguire,TP 5,11
Model,M 3,1

Shelfvland,OE 5,1
Tredwell,TA 16,2
Weiner,ML 10,4

13. MINING; MANUFACTURING; CONSTRUCTION

Tripp,CD 5,2

14. TRANSPORTATION; COMMUNICATION; PUBLIC UTILITIES

Aitchison,CB 10
Anderson,RB 10
Farnsworth,FA 6,10

Pospisil,HB 8,10
Radius,WA 8,10
Su,TS 10,1

Thatcher,LW 10,6
Thielecke,WL 5,4
Towsley,FH 1,9

Whiting,JW 4,9
Williams,EW Jr 16,2

15. AGRICULTURE; FORESTRY; FISHERIES

Collins,GP 1,16
Hansen,WJ 12,1

Richardson,Jff 8,3

Spielman,HW 12,8

Warren,FG 12,4

16. ECONOMIC GEOGRAPHY; REGIONAL PLANNING; URBAN LAND; HOUSING

Bell,WJ 17,19
Craf,JR 8,11

Darvin,LS 8,11
Hays,GA 8,2

Silvanic,SR 14,4

Thorson,IA 6

17. LABOR AND INDUSTRIAL RELATIONS

Chernick,J 1,4
Clarey,JA Jr 10,8
Estey,MS 5,18
Galenson,M 18
Gilson,MB
Hammer,RB 11,4

Hassell,EW 14,5
Hudgeon,EM 4,6
Jackson,HM 4,1
Jacobson,S 6,11
Kopelman,VW 16,4

Kovarik,RC 18,10
Jewett,RB 4,16
Nixon,JH 11,10
Nixon,RA 18,3
Posey,TE 18,1

Powell,EE 10
Rigrutsky,W 18,4
Seitzer,L 5,8
Seymour,HV 10,18
Stockner,NR 2,1

18. SOCIAL INSURANCE; RELIEF; PENSIONS; PUBLIC WELFARE

Hoiberg,OG 20,19

Stone,RE 14,7

19. CONSUMPTION; INCOME DISTRIBUTION; CO-OPERATION

Bigelow,HF 17,6

Grubbs,WM 17,6

Nelson,EE 8,2

20. POPULATION; MIGRATION; VITAL STATISTICS

Willcox,WF 4

